

NO-A102 663

INTEGRATED INFORMATION SUPPORT SYSTEM (IISS) VOLUME 0  
USER INTERFACE SUBS. (U) GENERAL ELECTRIC CO  
SCHENECTADY NY PRODUCTION RESOURCES CONSU..

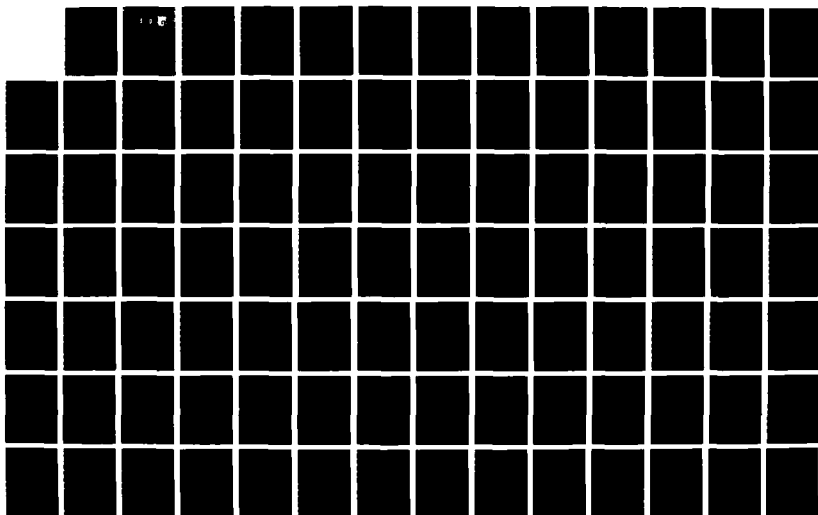
1/2

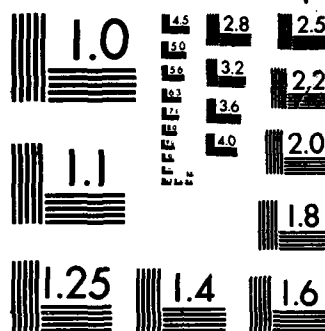
UNCLASSIFIED

C MORENC ET AL. 01 NOV 85 UTP-620144700

F/G 12/5

NL





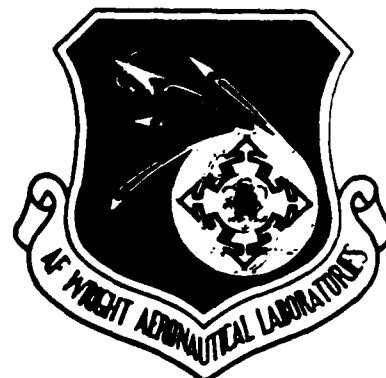
MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

ING FILE COPY

2

AFWAL-TR-86-4006  
Volume VIII  
Part 34

DTIC  
ELECTE  
JUL 20 1987  
S D  
C&D



AD-A182 663

INTEGRATED INFORMATION  
SUPPORT SYSTEM (IISS)  
Volume VIII - User Interface Subsystem  
Part 34 - Application Interface Unit Test Plan

General Electric Company  
Production Resources Consulting  
One River Road  
Schenectady, New York 12345

Final Report for Period 22 September 1980 - 31 July 1985  
November 1985

Approved for public release; distribution is unlimited.

MATERIALS LABORATORY  
AIR FORCE WRIGHT AERONAUTICAL LABORATORIES  
AIR FORCE SYSTEMS COMMAND  
WRIGHT-PATTERSON AFB, OH 45433-6533

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

A182 663

## REPORT DOCUMENTATION PAGE

|  |  |  |                                  |
|--|--|--|----------------------------------|
| 1a. REPORT SECURITY CLASSIFICATION<br>Unclassified   |  | 1b. RESTRICTIVE MARKINGS   |                                  |
| 2a. SECURITY CLASSIFICATION AUTHORITY  |  | 3. DISTRIBUTION/AVAILABILITY OF REPORT<br><br>Approved for public release;<br>distribution is unlimited.   |                                  |
| 2b. DECLASSIFICATION/DOWNGRADING SCHEDULE  |  |  |                                  |
| 4. PERFORMING ORGANIZATION REPORT NUMBER(S)  |  | 5. MONITORING ORGANIZATION REPORT NUMBER(S)<br><br>AFWAL-TR-86-4006 Vol VIII, Part 34  |                                  |
| 6a. NAME OF PERFORMING ORGANIZATION<br>General Electric Company<br>Production Resources Consulting   | 6b. OFFICE SYMBOL<br>(If applicable)<br>AFWAL/MLTC | 7a. NAME OF MONITORING ORGANIZATION<br>AFWAL/MLTC  |                                  |
| 6c. ADDRESS (City, State and ZIP Code)<br><br>1 River Road<br>Schenectady, NY 12345  |  | 7b. ADDRESS (City, State and ZIP Code)<br><br>WPAFB, OH 45433-6533   |                                  |
| 8a. NAME OF FUNDING/SPONSORING ORGANIZATION<br>Air Force Materials Laboratory<br>Air Force Systems Command, USAF   | 8b. OFFICE SYMBOL<br>(If applicable)<br>AFWAL/MLTC | 8. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER<br><br>F33615-80-C-5155  |                                  |
| 8c. ADDRESS (City, State and ZIP Code)<br><br>Wright-Patterson AFB, Ohio 45433   |  | 10. SOURCE OF FUNDING NOS.   |                                  |
|  |  | PROGRAM<br>ELEMENT NO.<br><br>78011F   | PROJECT<br>NO.<br><br>7500       |
|  |  | TASK<br>NO.<br><br>62  | WORK UNIT<br>NO.<br><br>01       |
| 11. TITLE (Include Security Classification)<br>(See Reverse)   |  |  |                                  |
| 12. PERSONAL AUTHOR(S)<br>Cross, Valerie and Morenc, Carol and Robie, Penny  |  |  |                                  |
| 13a. TYPE OF REPORT<br>Final Technical Report  | 13b. TIME COVERED<br>22 Sept 1980 - 31 July 1985   | 14. DATE OF REPORT (Yr., Mo., Day)<br>1985 November  | 15. PAGE COUNT<br>183            |
| 16. SUPPLEMENTARY NOTATION<br>ICAM Project Priority 6201   |  | The computer software contained herein are theoretical and/or references that in no way reflect Air Force-owned or -developed computer software. |                                  |
| 17. COSATI CODES   |  | 18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)  |                                  |
| FIELD  | GROUP  | SUB GR   |                                  |
| 1308   | 0905   |  |                                  |
|  |  |  |                                  |
| 19. ABSTRACT (Continue on reverse if necessary and identify by block number)<br><br>This unit test plan establishes the methodology and procedures used to adequately test the capabilities of the computer program identified as the Application Interface (AI). The AI consists of a set of callable execution time routines that allows an application program to send/receive formatted screens to/from various terminals and to perform terminal control functions independent of the terminal type. The AI translates the application's call for form processing into a message which is then sent to the User Interface Monitor of the Form Processor.<br><br><i>Computer program used for form processing</i><br><i>System: Ingress / Application: ( )</i> |  |  |                                  |
| 20. DISTRIBUTION/AVAILABILITY OF ABSTRACT<br>UNCLASSIFIED/UNLIMITED <input checked="" type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS <input type="checkbox"/>  |  | 21. ABSTRACT SECURITY CLASSIFICATION<br>Unclassified   |                                  |
| 22a. NAME OF RESPONSIBLE INDIVIDUAL<br>David L. Judson   |  | 22b. TELEPHONE NUMBER<br>(Include Area Code)<br>513-255-0976   | 22c. OFFICE SYMBOL<br>AFWAL/MLTC |

11. Title

Integrated Information Support System (IISS)  
Vol VIII - User Interface Subsystem  
Part 34 - Application Interface Unit Test Plan

A S D 86 0046  
9 Jan 1986



|                    |                                     |
|--------------------|-------------------------------------|
| Accession For      |                                     |
| NTIS CRA&I         | <input checked="" type="checkbox"/> |
| DTIC TAB           | <input type="checkbox"/>            |
| Unannounced        | <input type="checkbox"/>            |
| Justification      |                                     |
| By                 |                                     |
| Distribution/      |                                     |
| Availability Codes |                                     |
| Dist               | Avail and/or Special                |
| A-1                |                                     |

## PREFACE

This unit test plan covers the work performed under Air Force Contract F33615-80-C-5155 (ICAM Project 6201). This contract is sponsored by the Materials Laboratory, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Gerald C. Shumaker, ICAM Program Manager, Manufacturing Technology Division, through Project Manager, Mr. David Judson. The Prime Contractor was Production Resources Consulting of the General Electric Company, Schenectady, New York, under the direction of Mr. Allan Rubenstein. The General Electric Project Manager was Mr. Myron Hurlbut of Industrial Automation Systems Department, Albany, New York.

Certain work aimed at improving Test Bed Technology has been performed by other contracts with Project 6201 performing integrating functions. This work consisted of enhancements to Test Bed software and establishment and operation of Test Bed hardware and communications for developers and other users. Documentation relating to the Test Bed from all of these contractors and projects have been integrated under Project 6201 for publication and treatment as an integrated set of documents. The particular contributors to each document are noted on the Report Documentation Page (LD1473). A listing and description of the entire project documentation system and how they are related is contained in document FTR620100001, Project Overview.

The subcontractors and their contributing activities were as follows:

### TASK 4.2

#### Subcontractors

#### Role

Boeing Military Aircraft  
Company (BMAC)

Reviewer

D. Appleton Company  
(DACOM)

Responsible for IDEF support,  
state-of-the-art literature  
search

General Dynamics/  
Ft. Worth

Responsible for factory view  
function and information  
models

| <u>Subcontractors</u>            | <u>Role</u>   |
|----------------------------------|---|
| Illinois Institute of Technology | Responsible for factory view function research (IITRI) and information models of small and medium-size business |
| North American Rockwell          | Reviewer  |
| Northrop Corporation             | Responsible for factory view function and information models  |
| Pritsker and Associates          | Responsible for IDEF2 support   |
| SofTech                          | Responsible for IDEF0 support   |

TASKS 4.3 - 4.9 (TEST BED)

| <u>Subcontractors</u>                   | <u>Role</u>  |
|---|--|
| Boeing Military Aircraft Company (BMAC) | Responsible for consultation on applications of the technology and on IBM computer technology.   |
| Computer Technology Associates (CTA)    | Assisted in the areas of communications systems, system design and integration methodology, and design of the Network Transaction Manager.   |
| Control Data Corporation (CDC)          | Responsible for the Common Data Model (CDM) implementation and part of the CDM design (shared with DACOM).   |
| D. Appleton Company (DACOM)             | Responsible for the overall CDM Subsystem design integration and test plan, as well as part of the design of the CDM (shared with CDC). DACOM also developed the Integration Methodology and did the schema mappings for the Application Subsystems. |

UTP620144700  
1 November 1985

| <u>Subcontractors</u>  | <u>Role</u>  |
|--|--|
| Digital Equipment Corporation (DEC)  | Consulting and support of the performance testing and on DEC software and computer systems operation.              |
| McDonnell Douglas Automation Company (McAuto)                              | Responsible for the support and enhancements to the Network Transaction Manager Subsystem during 1984/1985 period. |
| On-Line Software International (OSI)                                       | Responsible for programming the Communications Subsystem on the IBM and for consulting on the IBM.                 |
| Rath and Strong Systems Products (RSSP) (In 1985 became McCormack & Dodge) | Responsible for assistance in the implementation and use of the MRP II package (PIOS) that they supplied.          |
| SofTech, Inc.  | Responsible for the design and implementation of the Network Transaction Manager (NTM) in 1981/1984 period.        |
| Software Performance Engineering (SPE)                                     | Responsible for directing the work on performance evaluation and analysis.   |
| Structural Dynamics Research Corporation (SDRC)                            | Responsible for the User Interface and Virtual Terminal Interface Subsystems.                                      |

Subcontractors and other prime contractors under other projects who have contributed to Test Bed Technology, their contributing activities and responsible projects are as follows:

| <u>Subcontractors</u>          | <u>Role</u>                     |
|--------------------------------|---------------------------------|
| General Dynamics/<br>Ft. Worth | Responsible for<br>factory view |

UTP620144700  
1 November 1985

| <u>Contractors</u>                              | <u>ICAM Project</u> | <u>Contributing Activities</u>   |
|---|---------------------|--|
| Boeing Military Aircraft Company (BMAC)         | 1701, 2201, 2202    | Enhancements for IBM node use. Technology Transfer to Integrated Sheet Metal Center (ISMC) |
| Control Data Corporation (CDC)                  | 1502, 1701          | IISS enhancements to Common Data Model Processor (CDMP)                                    |
| D. Appleton Company (DACOM)                     | 1502                | IISS enhancements to Integration Methodology   |
| General Electric                                | 1502                | Operation of the Test Bed and communications equipment.                                    |
| Hughes Aircraft Company (HAC)                   | 1701                | Test Bed enhancements  |
| Structural Dynamics Research Corporation (SDRC) | 1502, 1701, 1703    | IISS enhancements to User Interface/Virtual Terminal Interface (UI/VTI)                    |
| Systran   | 1502                | Test Bed enhancements. Operation of Test Bed.  |

TABLE OF CONTENTS

|   | <u>Page</u> |
|---|-------------|
| <b>SECTION 1.0 GENERAL</b> .....                        | 1-1         |
| 1.1 Purpose .....                                       | 1-1         |
| 1.2 Project References .....                            | 1-1         |
| 1.3 Terms and Abbreviations .....                       | 1-2         |
| <b>SECTION 2.0 DEVELOPMENT ACTIVITY</b> .....           | 2-1         |
| 2.1 Statement of Pretest Activity .....                 | 2-1         |
| 2.2 Pretest Activity Results .....                      | 2-1         |
| <b>SECTION 3.0 SYSTEM DESCRIPTION</b> .....             | 3-1         |
| 3.1 System Description .....                            | 3-1         |
| 3.2 Testing Schedule .....                              | 3-3         |
| 3.3 First Location Testing .....                        | 3-3         |
| 3.4 Subsequent Location Testing .....                   | 3-4         |
| <b>SECTION 4.0 SPECIFICATIONS AND EVALUATIONS</b> ..... | 4-1         |
| 4.1 Test Specifications .....                           | 4-1         |
| 4.2 Test Methods and Constraints .....                  | 4-5         |
| 4.3 Test Progression .....                              | 4-6         |
| 4.4 Test Evaluation .....                               | 4-6         |
| <b>SECTION 5.0 TEST PROCEDURES</b> .....                | 5-1         |
| 5.1 Test Description .....                              | 5-1         |
| 5.2 Test Control .....                                  | 5-1         |
| 5.3 Test Procedures .....                               | 5-1         |

APPENDICES

|  |     |
|--|-----|
| A Commands for ARTEST .....                  | A-1 |
| B FORMS FOR TESTING THE FORM PROCESSOR ..... | B-1 |

FIGURES

|  |     |
|--|-----|
| 3-1 Interface Block Diagram .....        | 3-2 |
| 4-1 Table of Functionality Testing ..... | 4-3 |
| 5-1a BEFORE .....                        | 5-3 |
| 5-1b AFTER .....                         | 5-4 |
| 5-1c BEFORE .....                        | 5-5 |
| 5-2a BEFORE .....                        | 5-6 |
| 5-2b AFTER .....                         | 5-7 |
| 5-3a BEFORE .....                        | 5-8 |

|       |        |      |
|-------|--------|------|
| 5-3b  | AFTER  | 5-9  |
| 5-4a  | BEFORE | 5-10 |
| 5-4b  | AFTER  | 5-11 |
| 5-5a  | BEFORE | 5-12 |
| 5-5b  | AFTER  | 5-13 |
| 5-6a  | BEFORE | 5-14 |
| 5-6b  | AFTER  | 5-15 |
| 5-7a  | BEFORE | 5-16 |
| 5-7b  | AFTER  | 5-17 |
| 5-8a  | BEFORE | 5-18 |
| 5-8b  | AFTER  | 5-19 |
| 5-9a  | BEFORE | 5-20 |
| 5-9b  | AFTER  | 5-21 |
| 5-10a | BEFORE | 5-22 |
| 5-10b | AFTER  | 5-23 |
| 5-11a | BEFORE | 5-24 |
| 5-11b | AFTER  | 5-25 |
| 5-12a | BEFORE | 5-26 |
| 5-12b | AFTER  | 5-27 |
| 5-13a | BEFORE | 5-28 |
| 5-13b | AFTER  | 5-29 |
| 5-14a | BEFORE | 5-30 |
| 5-14b | AFTER  | 5-31 |
| 5-15a | BEFORE | 5-32 |
| 5-15b | AFTER  | 5-33 |
| 5-16a | BEFORE | 5-34 |
| 5-16b | AFTER  | 5-35 |
| 5-17a | BEFORE | 5-36 |
| 5-17b | AFTER  | 5-37 |
| 5-18a | BEFORE | 5-38 |
| 5-18b | AFTER  | 5-40 |
| 5-19a | BEFORE | 5-40 |
| 5-19b | AFTER  | 5-41 |
| 5-20a | BEFORE | 5-42 |
| 5-20b | AFTER  | 5-43 |
| 5-21a | BEFORE | 5-44 |
| 5-21b | AFTER  | 5-45 |
| 5-22a | BEFORE | 5-46 |
| 5-22b | AFTER  | 5-47 |
| 5-23a | BEFORE | 5-48 |
| 5-23b | AFTER  | 5-49 |
| 5-24a | BEFORE | 5-50 |
| 5-24b | AFTER  | 5-51 |
| 5-25a | BEFORE | 5-52 |
| 5-25b | AFTER  | 5-53 |
| 5-26a | BEFORE | 5-54 |
| 5-26b | AFTER  | 5-55 |

|                          |       |
|--------------------------|-------|
| 5-27a BEFORE             | 5-56  |
| 5-27b AFTER              | 5-57  |
| 5-27c AFTER 5-27b PF key | 5-58  |
| 5-28a BEFORE             | 5-59  |
| 5-28b AFTER              | 5-60  |
| 5-29a BEFORE             | 5-61  |
| 5-29b AFTER              | 5-62  |
| 5-30a BEFORE             | 5-63  |
| 5-30b AFTER              | 5-64  |
| 5-31a BEFORE             | 5-65  |
| 5-31b AFTER              | 5-66  |
| 5-32a BEFORE             | 5-67  |
| 5-32b AFTER              | 5-68  |
| 5-33a BEFORE             | 5-69  |
| 5-33b AFTER              | 5-70  |
| 5-34a BEFORE             | 5-71  |
| 5-34b AFTER              | 5-72  |
| 5-35a BEFORE             | 5-73  |
| 5-35b AFTER              | 5-74  |
| 5-36a BEFORE             | 5-75  |
| 5-36b AFTER              | 5-76  |
| 5-37a BEFORE             | 5-77  |
| 5-37b AFTER              | 5-78  |
| 5-38a BEFORE             | 5-79  |
| 5-38b AFTER              | 5-80  |
| 5-39a BEFORE             | 5-81  |
| 5-39b AFTER              | 5-82  |
| 5-39c AFTER 5-39b        | 5-83  |
| 5-40a BEFORE             | 5-84  |
| 5-40b AFTER              | 5-85  |
| 5-40c AFTER 5-40b        | 5-86  |
| 5-40d AFTER 5-40c        | 5-87  |
| 5-41a BEFORE             | 5-88  |
| 5-41b AFTER              | 5-89  |
| 5-42a BEFORE             | 5-90  |
| 5-42b AFTER              | 5-91  |
| 5-43a BEFORE             | 5-92  |
| 5-43b AFTER              | 5-93  |
| 5-44a BEFORE             | 5-94  |
| 5-44b AFTER              | 5-95  |
| 5-45a BEFORE             | 5-96  |
| 5-45b AFTER              | 5-97  |
| 5-46a BEFORE             | 5-98  |
| 5-46b AFTER              | 5-99  |
| 5-47a BEFORE             | 5-100 |
| 5-47b AFTER              | 5-101 |
| 5-48a BEFORE             | 5-102 |

UTP620144700  
1 November 1985

|              |       |
|--------------|-------|
| 5-48b AFTER  | 5-103 |
| 5-49a BEFORE | 5-104 |
| 5-49b AFTER  | 5-105 |
| 5-50a BEFORE | 5-106 |
| 5-50b AFTER  | 5-107 |
| 5-51a BEFORE | 5-108 |
| 5-51b AFTER  | 5-109 |
| 5-52a BEFORE | 5-110 |
| 5-52b AFTER  | 5-111 |
| 5-53a BEFORE | 5-112 |
| 5-53b AFTER  | 5-113 |
| 5-54a BEFORE | 5-114 |
| 5-54b AFTER  | 5-115 |
| 5-55a BEFORE | 5-116 |
| 5-55b AFTER  | 5-117 |
| 5-56a BEFORE | 5-118 |
| 5-56b AFTER  | 5-119 |
| 5-57a BEFORE | 5-120 |
| 5-57b AFTER  | 5-121 |
| 5-58a BEFORE | 5-122 |
| 5-58b AFTER  | 5-123 |
| 5-59a BEFORE | 5-124 |
| 5-59b AFTER  | 5-125 |
| 5-60a BEFORE | 5-126 |
| 5-60b AFTER  | 5-127 |
| 5-61a BEFORE | 5-128 |
| 5-61b AFTER  | 5-129 |
| 5-62a BEFORE | 5-130 |
| 5-62b AFTER  | 5-131 |
| 5-63a BEFORE | 5-132 |
| 5-63b AFTER  | 5-133 |
| 5-64a BEFORE | 5-134 |
| 5-64b AFTER  | 5-135 |
| 5-65a BEFORE | 5-136 |
| 5-65b AFTER  | 5-137 |
| 5-66a BEFORE | 5-138 |
| 5-66b AFTER  | 5-139 |
| 5-67a BEFORE | 5-140 |
| 5-67b AFTER  | 5-141 |
| 5-68a BEFORE | 5-142 |
| 5-68b AFTER  | 5-143 |
| 5-69a BEFORE | 5-144 |
| 5-69b AFTER  | 5-145 |
| 5-70a BEFORE | 5-146 |
| 5-70b AFTER  | 5-147 |
| 5-71a BEFORE | 5-148 |
| 5-71b AFTER  | 5-149 |

## SECTION 1

### GENERAL

#### 1.1 Purpose

This unit test plan establishes the methodology and procedures used to adequately test the capabilities of the computer program identified as the Application Interface known in this document as the AI. The AI is one configuration item of the Integrated Information Support System (IISS) User Interface (UI). It consists of Application Interface callable routines.

#### 1.2 Project References

- [1] ICAM Documentation Standards, 15 September 1983, IDS150120000C.
- [2] Structural Dynamics Research Corporation, Form Processor Application Programmer Manual, UM 620144200B, 1 November 1985.
- [3] Structural Dynamics Research Corporation, Form Processor Computer Program Development Specification, DS 620144200B, 1 November 1985.
- [4] Structural Dynamics Research Corporation, Forms Language Compiler Unit Test Plan, UTP620144401, 1 November 1985.
- [5] Structural Dynamics Research Corporation, Forms Driven Form Editor Unit Test Plan, UTP620144402, 1 November 1985.
- [6] Structural Dynamics Research Corporation, Report Writer Unit Test Plan, UTP620144501, 1 November 1985.
- [7] Structural Dynamics Research Corporation, Rapid Application Generator Unit Test Plan, UTP620144502, 1 November 1985.
- [8] Structural Dynamics Research Corporation, Text Editor Unit Test Plan, UTP620144600, 1 November 1985.

- [9] Structural Dynamics Research Corporation, Application Interface Unit Test Plan, UTP620144700, 1 November 1985.
- [10] Structural Dynamics Research Corporation, User Interface Services Unit Test Plan, UTP620144100, 1 November 1985.
- [11] Structural Dynamics Research Corporation, Form Processor Unit Test Plan, UTP620144200, 1 November 1985.

### 1.3 Terms and Abbreviations

Application Interface: (AI), subset of the IISS User Interface that consists of the callable routines that are linked with applications that use the Form Processor or Virtual Terminal. The AI enables applications to be hosted on computers other than the host of the User Interface.

Application Process: (AP), a cohesive unit of software that can be initiated as a unit to perform some function or functions.

Communication Services: allows on host interprocess communication and inter-host communication between the various Test Bed subsystems.

Communication Subsystem: (COMM), IISS subsystem that provides communication services to the Test Bed and subsystems.

Computer Program Configuration Item: (CPCI), an aggregation of computer programs or any of their discrete portions, which satisfies an end-use function.

Field: two-dimensional space on a terminal screen.

Field Pointer: indicates the ITEM which contains the current cursor position.

Form: structured view which may be imposed on windows or other forms. A form is composed of fields. These fields may be defined as forms, items, and windows.

Form Definition: (FD), forms definition language after compilation. It is read at runtime by the Form Processor.

Forms Definition Language: (FDL), the language in which electronic forms are defined.

Form Hierarchy: a graphic representation of the way in which forms, items and windows are related to their parent form.

Form Processor: (FP), subset of the IISS User Interface that consists of a set of callable execution time routines available to an application program for form processing.

IISS Function Screen: the first screen that is displayed after logon. It allows the user to specify the function he wants to access and the device type and device name on which he is working.

Integrated Information Support System: (IISS), a test computing environment used to investigate, demonstrate and test the concepts of information management and information integration in the context of Aerospace Manufacturing. The IISS addresses the problems of integration of data resident on heterogeneous data bases supported by heterogeneous computers interconnected via a Local Area Network.

Message: descriptive text which may be returned in the standard message line on the terminal screen. They are used to warn of errors or provide other user information.

Message Line: a line on the terminal screen that is used to display messages.

Network Transaction Manager: (NTM), IISS subsystem that performs the coordination, communication and housekeeping functions required to integrate the Application Processes and System Services resident on the various hosts into a cohesive system.

Qualified Name: the name of a form, item or window preceded by the hierarchy path so that it is uniquely identified.

User Data: data which is either input by the user or output by the application programs to items.

User Interface: (UI), IISS subsystem that controls the user's terminal and interfaces with the rest of the system. The UI consists of two major subsystems: the User Interface Development System (UIDS) and the User Interface Management System (UIMS).

UTP620144700  
1 November 1985

User Interface Management System: (UIMS), the runtime UI. It consists of the Form Processor, Virtual Terminal, Application Interface, the User Interface Services and the Text Editor.

User Interface/Virtual Terminal Interface: (UI/VTI), another name for the User Interface.

Virtual Terminal: (VT), subset of the IISS User Interface that performs the interfacing between different terminals and the UI. This is done by defining a specific set of terminal features and protocols which must be supported by the UI software which constitutes the virtual terminal definition. Specific terminals are then mapped against the virtual terminal software by specific software modules written for each type of real terminal supported.

Window: dynamic area of a terminal screen on which predefined forms may be placed at run time.

## SECTION 2

### DEVELOPMENT ACTIVITY

#### 2.1 Statement of Pretest Activity

During system development, the computer programs were tested progressively. Functionality was incrementally tested, and as bugs were discovered by this testing, the software was corrected.

Each Application Interface callable routine was tested individually through Application Interface development. A test program, ARTEST, was developed as an easy means of testing changes to the Application Interface. This test program allows a developer to type in commands that are translated into the appropriate Application Interface calls. With this test program all Application Interface callable routines may be executed.

All pretesting activity was conducted by the individual program developer in a manual mode. The developer would manually enter data onto the screen and observe the results. Any errors were noted by the developer, and corrections to the Application Interface software were then made after a testing session.

#### 2.2 Pretest Activity Results

The pretest activity was very successful in the elimination of programming bugs so that at release time only a few bugs were found in the Application Interface. The development of the test program, ARTEST, has proved very beneficial since as new functionality was added to the Application Interface, ARTEST was also updated to test this functionality. ARTEST is the major test tool for the Unit Test Plan of the Application Interface.

### SECTION 3

#### SYSTEM DESCRIPTION

##### 3.1 System Description

The Application Interface consists of a set of callable execution time routines that allows an application program to send/receive formatted screens to/from various terminals and to perform terminal control functions independent of the terminal type. The Application Interface translates the application's call for form processing into a message which is then sent to the User Interface Monitor of the Form Processor.

The following block diagram illustrates the Application Interface Test Configuration used in the Unit Test Plan.

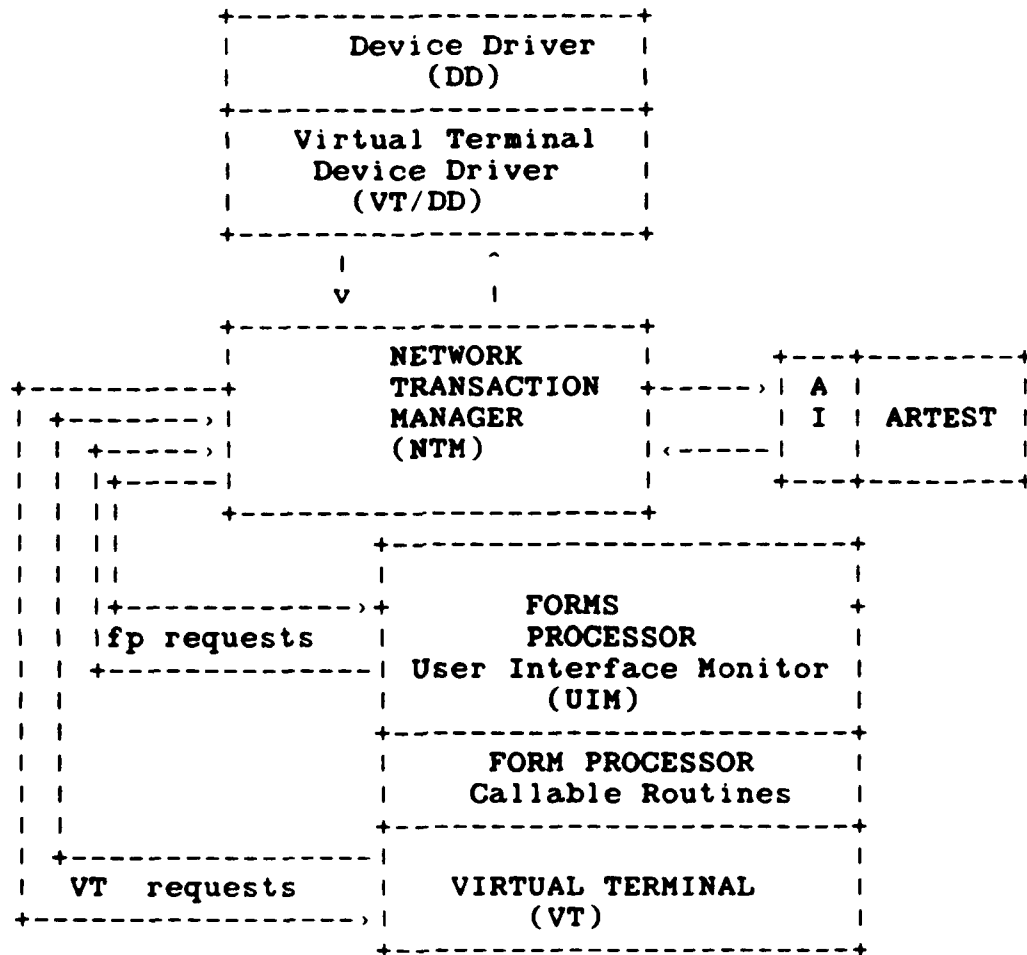


Figure 3-1 Interface Block Diagram

The required input and the resulting output of these tests are documented in detail in Section 5.3. The general testing method is the entry of commands on the ARTEST form Command Line item and the translation of this command by the ARTEST program into a call to the appropriate Application Interface routine. Each Application Interface routine as found in the Application Interface Development Specification is to be exercised. The resulting output is observed on the ARTEST form. Appendix A

outlines the ARTEST command format and the various types of commands and function keys.

The following keys are used to move within forms (using the VT100 terminal as an example): the ENTER key is used to activate all commands; the TAB key is used to move from field to field within the form; and the arrow keys are used to move within fields. In addition, ESC TAB is a reverse TAB.

### 3.2 Testing Schedule

The execution of the Application is dependent upon the NTM subsystem of the IISS. Testing of the Application Interface must be done only after the NTM has been successfully tested. In this unit test, the Application Interface is dependent on the Form Processor (FP) and on the Virtual Terminal (VT). In fact, all three Configuration Items are to be tested together.

### 3.3 First Location Testing

These tests of the Application Interface require the following:

Equipment: Air Force VAX, terminals supported by the Virtual Terminal as listed in the UI Terminal Operator's Guide.

Support Software: the Integrated Information Support System, the Oracle database management system, C run-time libraries.

Personnel: One integrator familiar with the IISS.

Training: The AI User manual has been previously provided with the current release.

Deliverables: The Application Interface component of the IISS UI/VTI.

Test Materials: This test may be run interactively by inputting the appropriate data and observing the output as outlined in this test plan. A script file has been created to run this unit test plan and save the resulting output.

UTP620144700  
1 November 1985

Security considerations: None.

#### 3.4 Subsequent Location Testing

The requirements as listed above need to be met; however, in subsequent testing it is advantageous to create a script file of the outlined tests and run this saving the output of the test for future comparisons.

## SECTION 4

### SPECIFICATIONS AND EVALUATIONS

#### 4.1 Test Specification

The Unit Test Plan is based on covering specific functionality as outlined in the Application Interface DS. The test uses the test program ARTEST.

The following chart has the functional requirements as outlined in the Application Interface Development Specification listed vertically and the test activities in the Unit Test Plan that demonstrate each functional requirement's testing listed horizontally. As can be seen in the figures in Section 5.3, the command line of the form used by ARTEST, has the actual Application Interface routine name specified or is annotated with what function key was pressed.

UTP620144700  
1 November 1985

| Functional<br>Require-<br>ments | Diagram Mapping |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------------|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|                                 | A               | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| ADDFRM                          | X               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| CHGLDV                          |                 | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| CLSFRM                          |                 |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| CLSLDV                          |                 |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| GDATA                           |                 |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| GETATT                          |                 |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| GETBAK                          |                 |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| GETCUR                          |                 |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| GPAGE                           |                 |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| GWINDO                          |                 |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| INITFP                          |                 |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| INQLDV                          |                 |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| OISCR                           |                 |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |
| OPNFRM                          |                 |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |
| OPNLDV                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |
| OUTSCR                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |
| PARFQN                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |
| PDATA                           |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |
| PMSGLC                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |
| PMSGLS                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |

-CONTINUED-

UTP620144700  
1 November 1985

| Functional<br>Require-<br>ments | Diagram Mapping |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---------------------------------|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|                                 | A               | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |   |
| PUTATT                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |
| PUTBAK                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |
| PUTCUR                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |
| RMVPAG                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |
| RPLFRM                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |
| TERMFP                          |                 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |

Figure 4-1 Table of Functionality Testing

The steps outlined in Section 5.3 presenting the BEFORE and AFTER forms of each test show the direct correspondence between the test and the functional requirements as listed in this section.

- A - Figure 5-3-a thru Figure 5-4-b
- B - Figure 5-43-a thru Figure 5-43-b
- C - Figure 5-11-a thru Figure 5-12-b
- D - Figure 5-69-a thru Figure 5-69-b
- E - Figure 5-16-a thru Figure 5-18-b
- F - Figure 5-19-a thru Figure 5-19-b
- G - Figure 5-23-a thru Figure 5-23-b
- H - Figure 5-27-a thru Figure 5-27-b
- I - Figure 5-7-a thru Figure 5-7-b
- J - Figure 5-8-a thru Figure 5-8-b
- K - Figure 5-2-a thru Figure 5-2-b
- L - Figure 5-41-a thru Figure 5-41-b
- M - Figure 5-29-a thru Figure 5-29-c
- N - Figure 5-4-a thru Figure 5-4-b
- O - Figure 5-42-a thru Figure 5-42-b
- P - Figure 5-29-a thru Figure 5-29-c
- Q - Figure 5-28-a thru Figure 5-28-b
- R - Figure 5-13-a thru Figure 5-13-b
- S - Figure 5-39-c
- T - Figure 5-40-c
- U - Figure 5-20-a thru Figure 5-21-b, 5-24-a thru 5-25-b
- V - Figure 5-22-a thru Figure 5-22-b, 5-26-a thru 5-26-b
- W - Figure 5-27-a thru Figure 5-27-b
- X - Figure 5-6-a thru Figure 5-6-b
- Y - Figure 5-5-a thru Figure 5-5-b
- Z - Figure 5-70-a thru the last figure

#### 4.2 Testing Methods and Constraints

The tests as outlined in Section 5 must be followed. The required input is stated for each test. This testing uses the normal mode of operation of these functions and does not completely exercise all the error combinations that a user of the Application Interface might create by faulty entry of parameter information. Much of this testing has been done, however, through the normal testing done by the developer of these functions. No data recording is required. It is suggested that on further running of this test, scripting of the test may be done and the output from running the script be saved for future testing. No additional constraints are placed on this unit test besides those listed in Section 3.3 of this unit test plan.

#### 4.3 Test Progression

The progression of testing of the Application Interface is fully outlined in Section 5 of this unit test plan. This progression should be followed exactly to insure the successful testing of this IISS configuration item.

#### 4.4 Test Evaluation

The test results are evaluated by comparing the information returned on the various output screens to that specified as successful for the given test. As outlined in Section 5, each test of Application Interface functionality provides an input screen with the required data entry specified and the resulting output for a successful test. To speed up this testing and provide more accurate measurement of the test's success, scripting has been used. The resulting output of these tests is saved in a file FPUTP.SAV. The corresponding test script file is FPUTP.SCP. Both these files are under IISS Configuration Management. If scripting is used, these files should be copied over to the test directory. The .SAV file may be used for future comparison against subsequent running of this unit test using scripting. To compare the results use the command file DIFFILE.COM which was released as part of the acceptance testing done on the Air Force VAX and is under Configuration Management. The only differences should be the date/time stamps on the IISS function screen and the type of device on the window manager screen. The device type is given to the UIS by the NTM at run time. Note that the test script used to test the Application Interface is exactly the same one as was used to test the Form Processor. The latter part of that script which tests window management processing is not necessary for the testing of the Application Interface.

## SECTION 5

### TEST PROCEDURES

#### 5.1 Test Description

A general description of this unit test was provided in Section 3.

#### 5.2 Test Control

As outlined, this unit test may be done manually or run automatically using a supplied script file. To manually perform this unit test would require the tester to be logged into the IISS system and enter SDARTESTZZ on the Function Select Form. In section 5.3 the required input data is specified for each function being tested and the resulting successful output is also specified. The order of the testing is also completely specified. The test control information is completely described by the sequence of the input and output screens presented in this section. The successfulness of the test may be determined by doing a comparison on the .SAV files produced against the ones provided under IISS Configuration Management.

#### 5.3 Test Procedures

To run the unit test plan as outlined in this section on a VAX, one must be logged on to an IISS account. The NTM must be up and running and the UI group logical names IISSFLIB and IISSMLIB must be set properly. IISSFLIB points to the directory containing production form definitions (FD files). IISSMLIB points to the directory containing error messages (.MSG files).

This unit test uses the program ARTEST and its associated forms ffl through ff9. The fdl source file for these forms is presented in Appendix B. The executable for ARTEST should exist in the NTM environment directory and the NTM dirtbl.dat should have its SD entry pointing to this directory. The NTM tables APITBL, APTTBL, and ACTTBL should have ARTEST set up as a normal IISS application program.

Assuming the NTM is up and running, an IISS user may start up this unit test plan as follows:

UTP620144700  
1 November 1985

```
$ SET DEF <to directory containing your NTM environment>  
$ VT100 -RPUTP.SCP -SFPTST.SAV
```

This starts up the VT100 device driver with a source script as input and specifies a save file for output. If the User Interface system has been installed at your site with a different device driver, then this step is amended as appropriate. The test begins executing on the terminal. The results of this test are saved in the current directory in the file FPTST.SAV. The Before and After Figures show not only the form input and output but also the sequencing of the test.

UTP620144700  
1 November 1985

USER ID:

PASSWORD:

ROLE:

Mag: ☐ 0

application

Figure 5-1a (BEFORE)

UTP620144700  
1 November 1985

USER ID: MORENC

PASSWORD:

ROLE: MANAGER

Msg: 0

application

Figure 5-1b (AFTER)

UTP620144700  
1 November 1985

I I S S T E S T B E D V E R S I O N 2.0

---

DATE:  TIME:  USER ID:  ROLE:

FUNCTION:  DEVICE TYPE:  DEVICE NAME:

Msg:  application

Figure 5-1c (BEFORE)

UTP620144700  
1 November 1985

IISS TEST BED VERSION 2.0

DATE: 6/26/85 TIME: 10:33:09 USER ID: KORENC ROLE: MANAGER

FUNCTION: SDARTESTZZ DEVICE TYPE: DEVICE NAME:

Msg: 0 application

Figure 5-2a (BEFORE)

UTP620144700  
1 November 1985

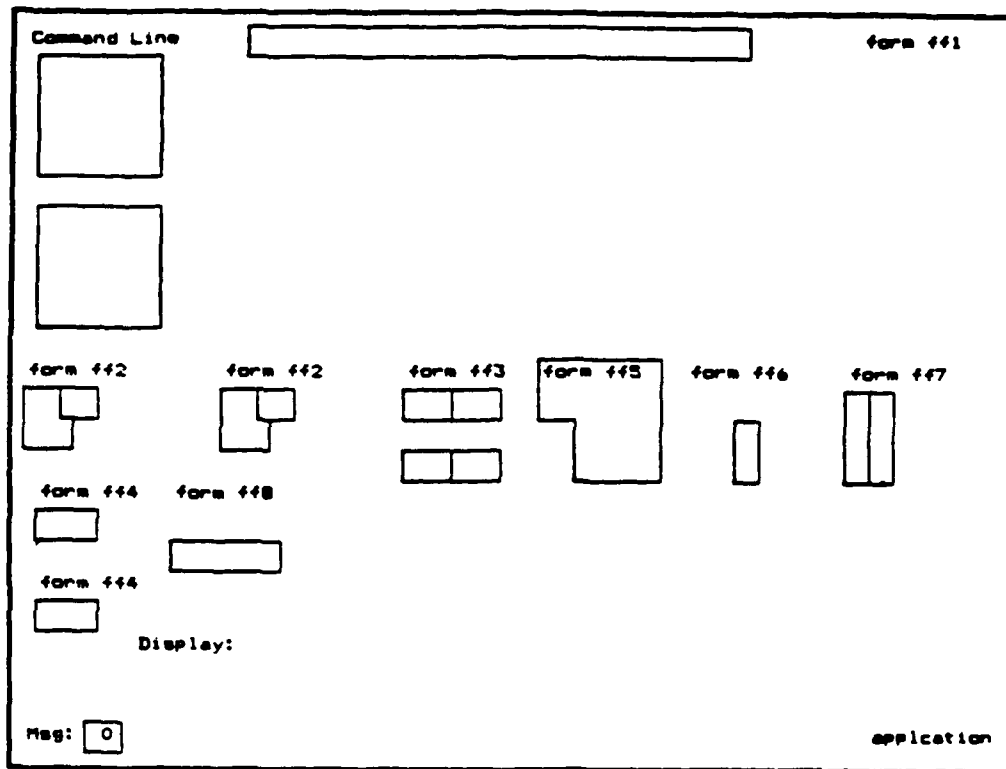


Figure 5-2b (AFTER)

UTP620144700  
1 November 1985

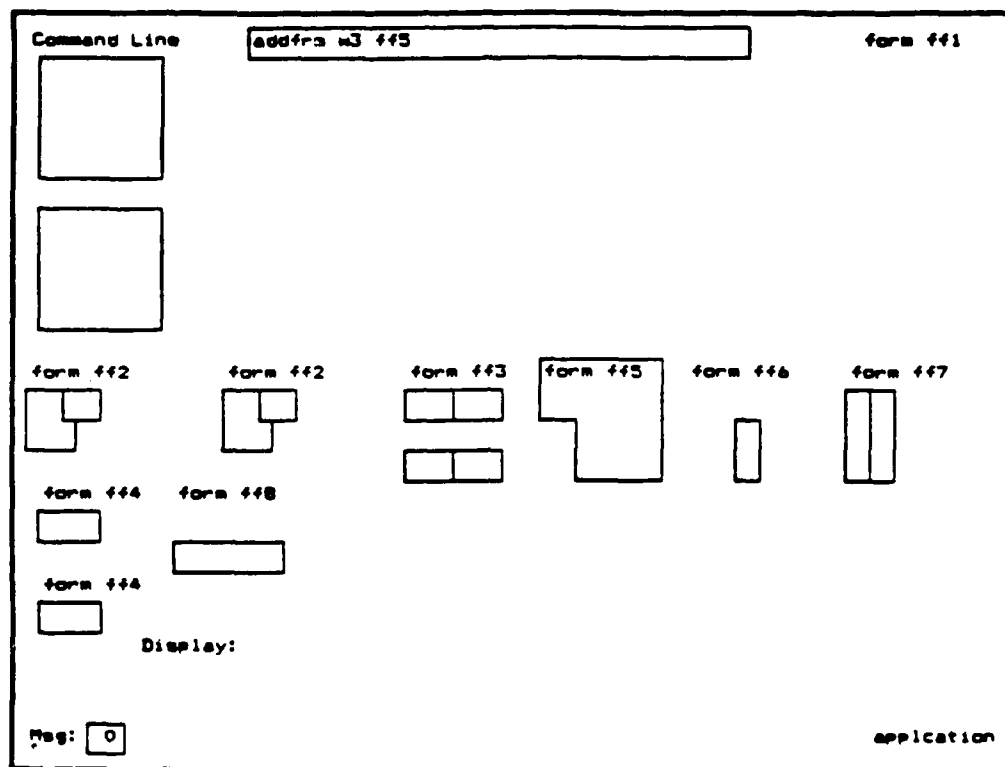


Figure 5-3a (BEFORE)

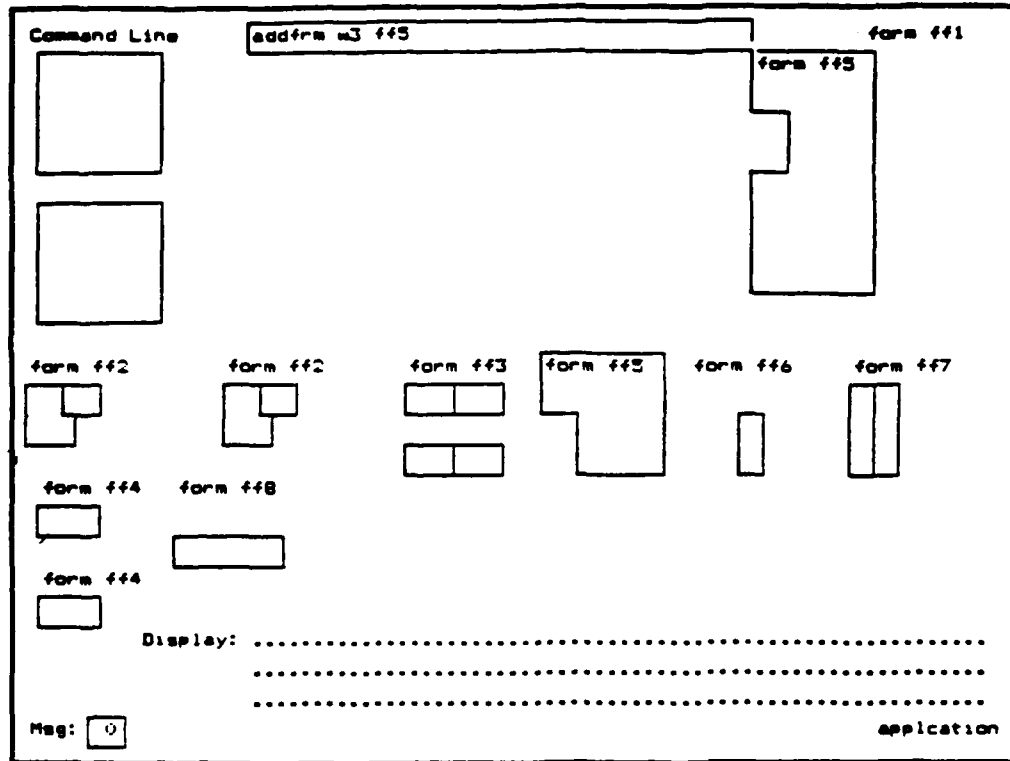


Figure 5-3b (AFTER)

UTP620144700  
1 November 1985

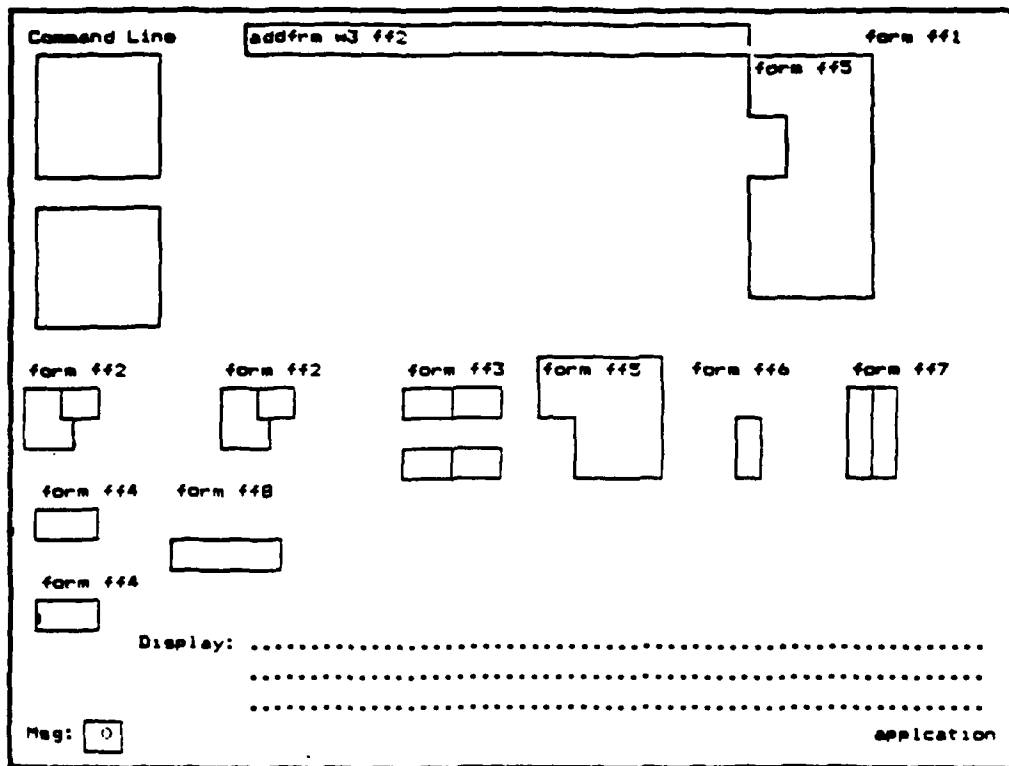


Figure 5-4a (BEFORE)

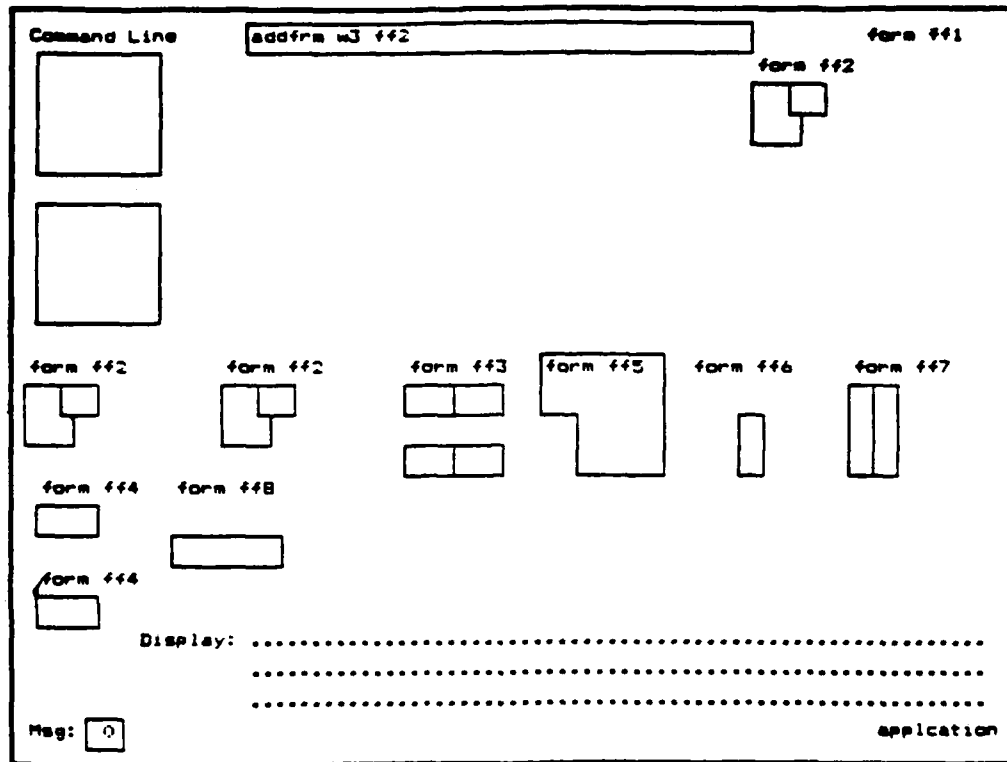


Figure 5-4b (AFTER)

UTP620144700  
1 November 1985

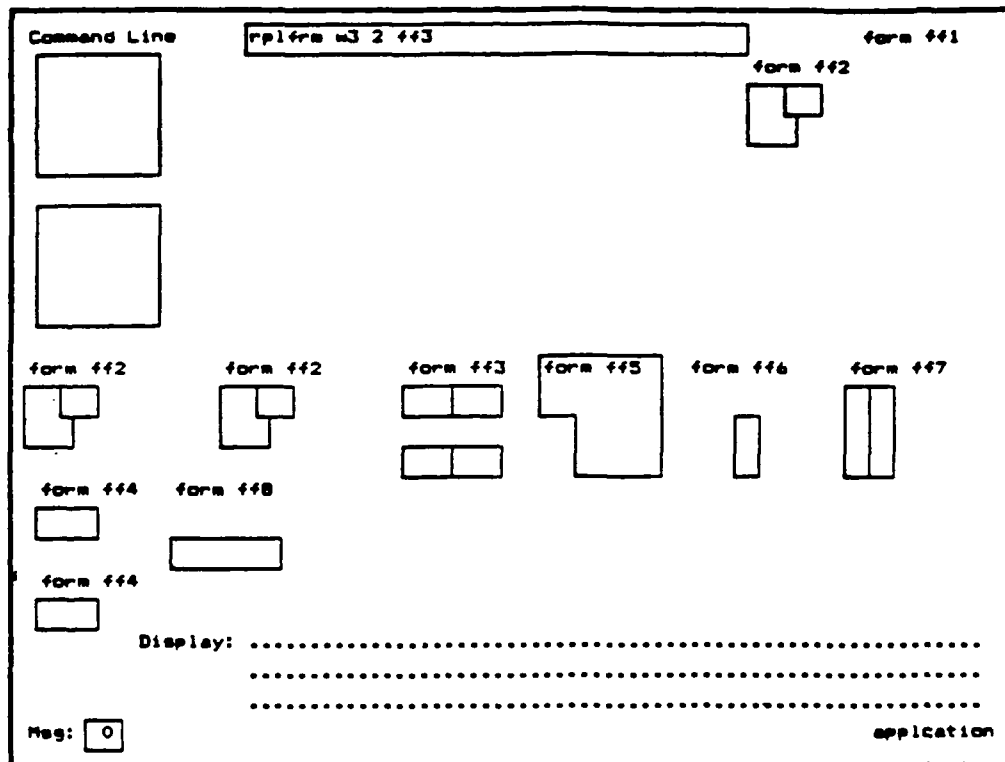


Figure 5-5a (BEFORE)

Command Line

form f41

form f43

form f42

form f42

form f43

form f45

form f46

form f47

form f44

form f48

form f44

Display: .....

Msg:

application

Figure 5-5b (AFTER)

UTP620144700  
1 November 1985

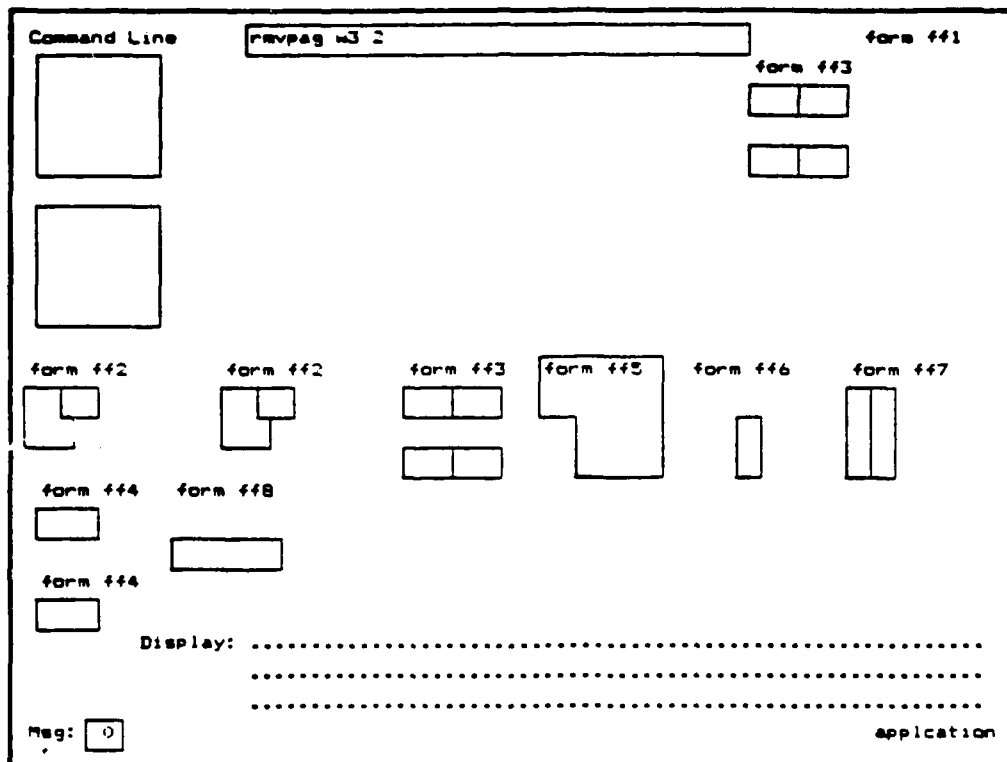


Figure 5-6a (BEFORE)

UTP620144700  
1 November 1985

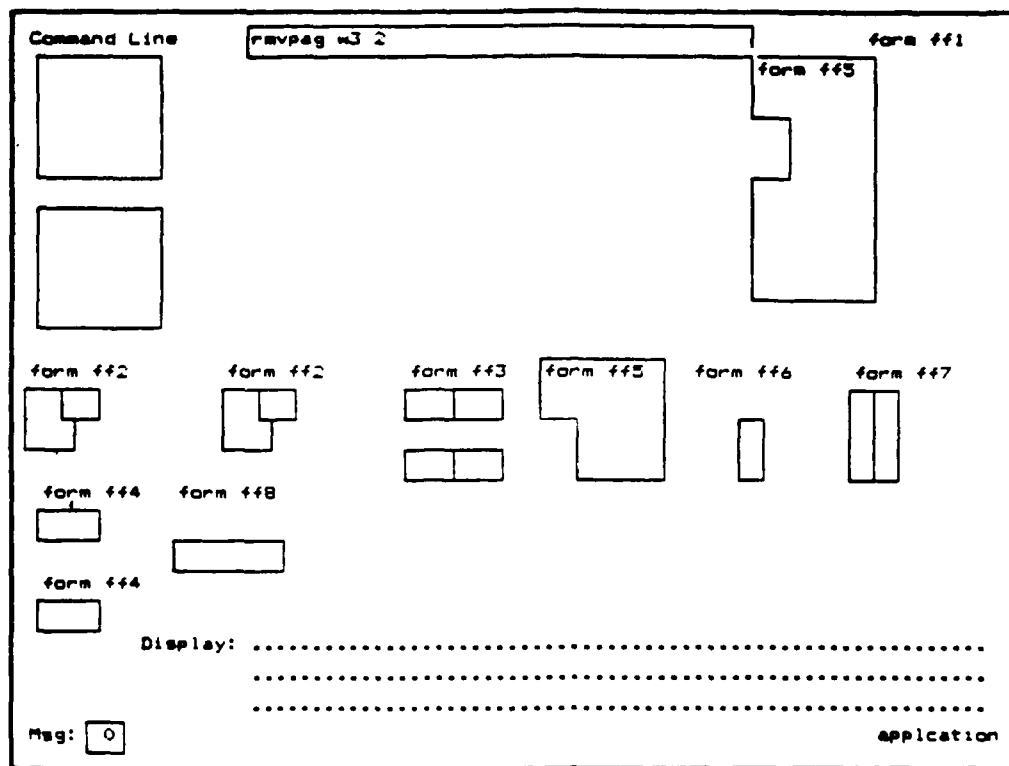


Figure 5-6b (AFTER)

UTP620144700  
1 November 1985

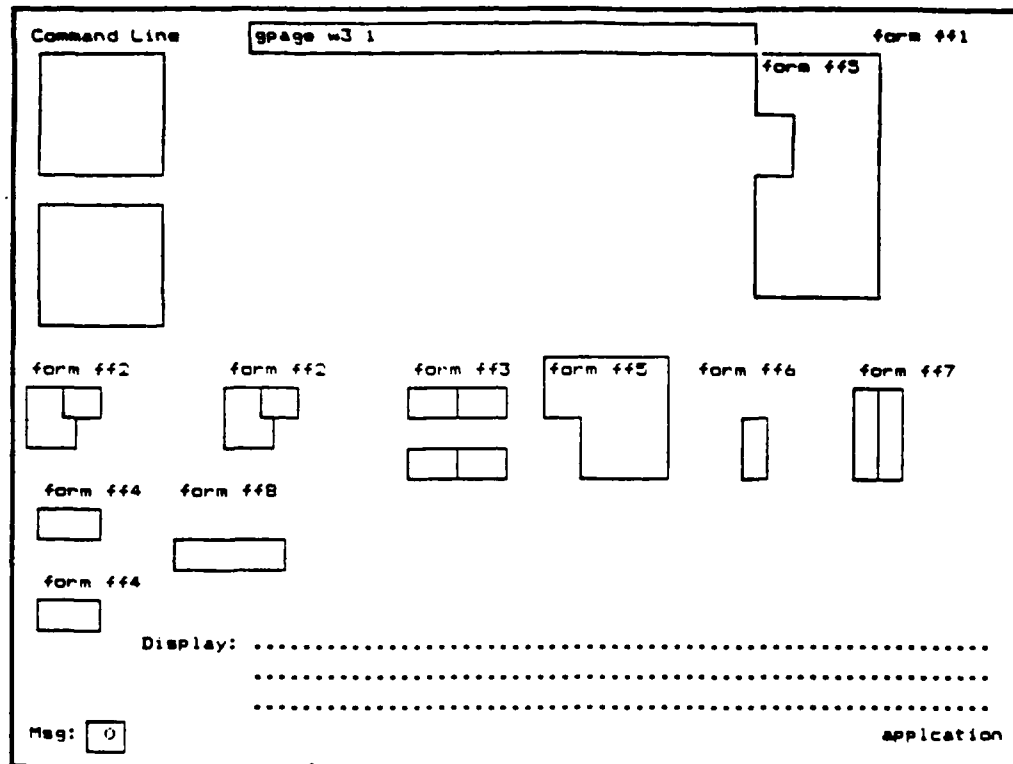


Figure 5-7a (BEFORE)

UTP620144700  
1 November 1985

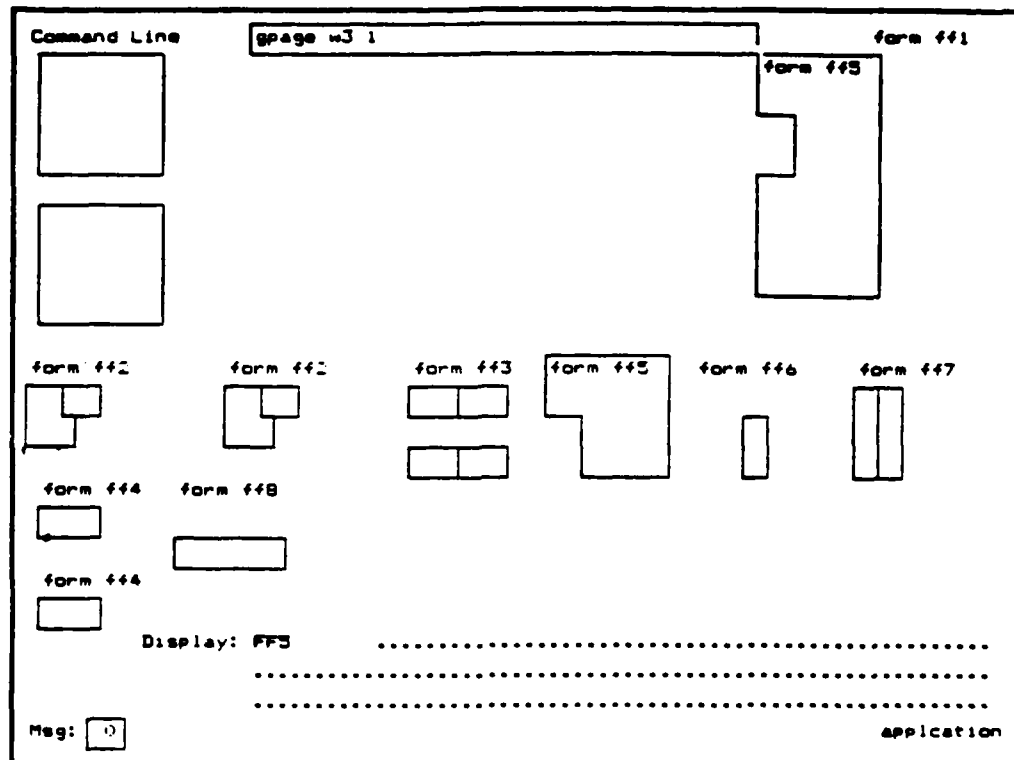


Figure 5-7b (AFTER)

UTP620144700  
1 November 1985

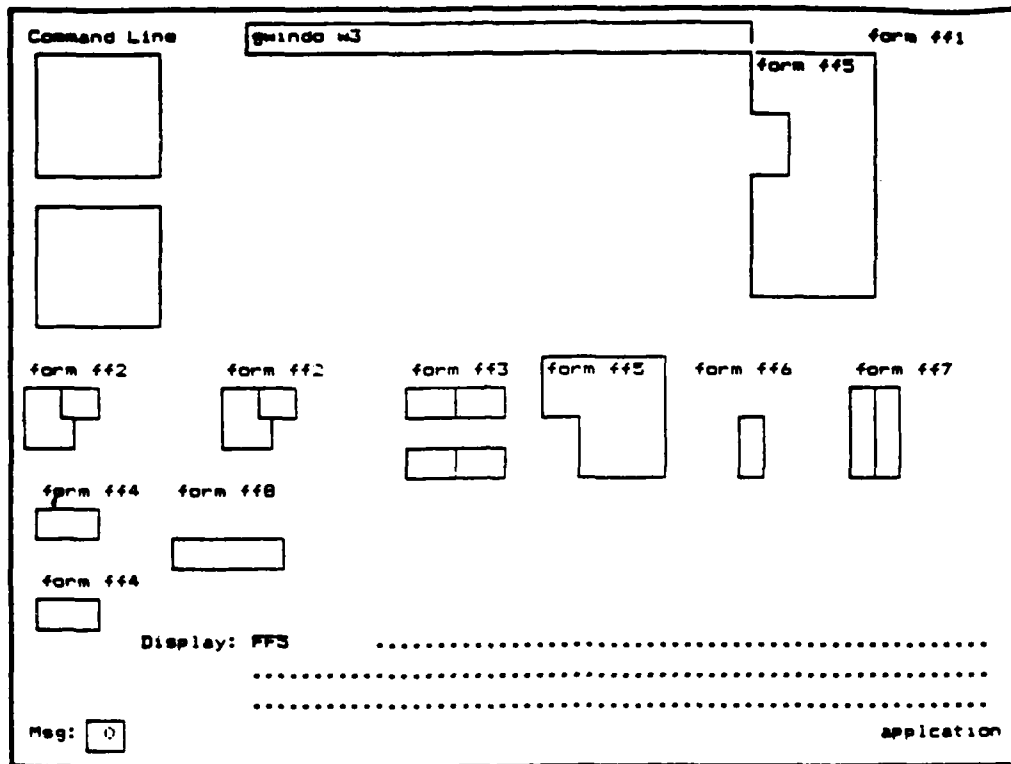


Figure 5-8a (BEFORE)

UTP620144700  
1 November 1985

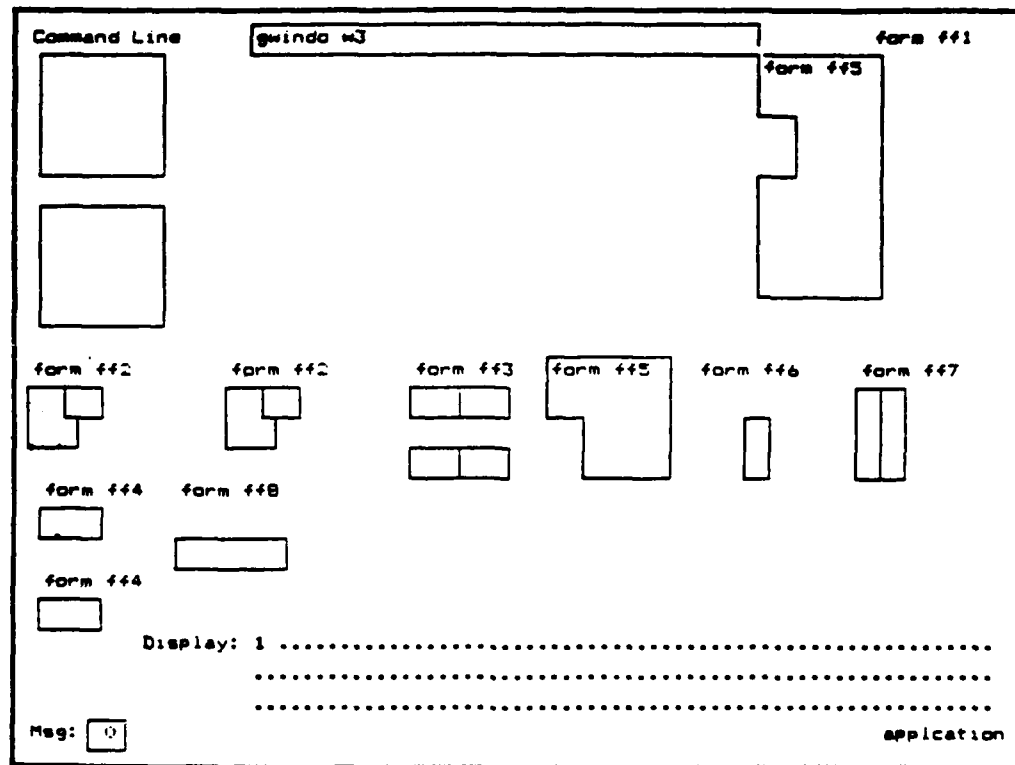


Figure 5-8b (AFTER)

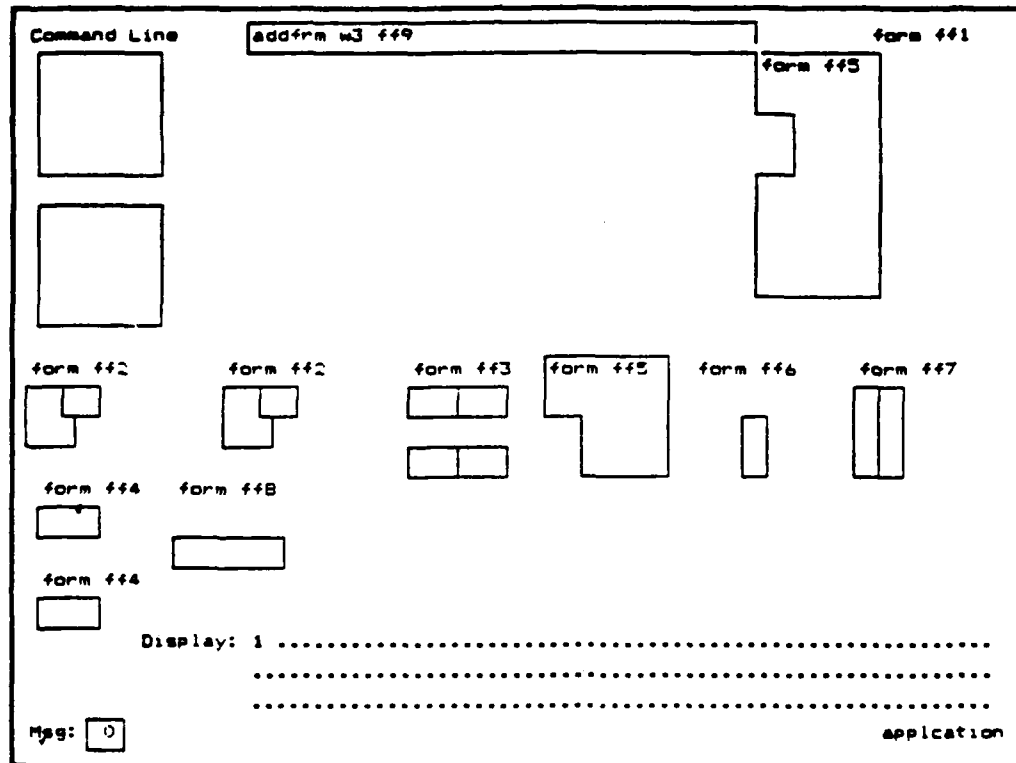


Figure 5-9a (BEFORE)

Command Line  form f41

form f42

form f42

form f43

form f45

form f46

form f47

form f44

form f48

form f44

Display: .....

.....

.....

application

Mag:

Figure 5-9b (AFTER)

UTP620144700  
1 November 1985

Command Line  form ff1

form ff2

form ff2

form ff3

form ff5

form ff6

form ff7

form ff4

form ff8

form ff4

Display: .....  
.....  
.....

Msg:

application

Figure 5-10a (BEFORE)

UTP620144700  
1 November 1985

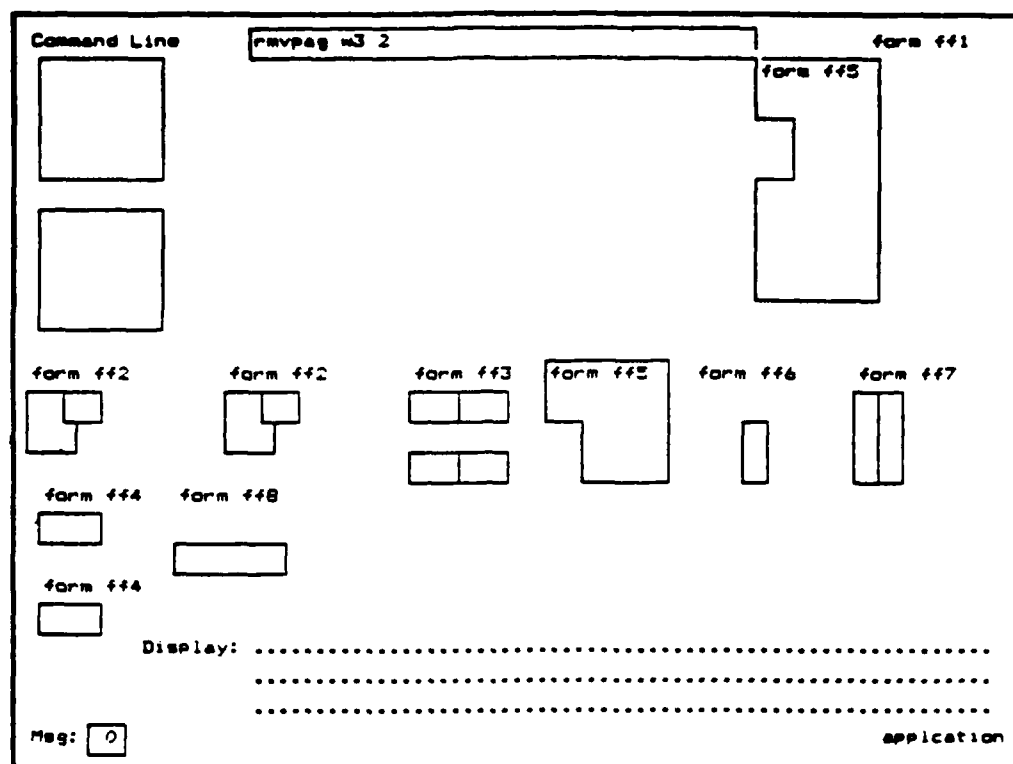


Figure 5-10b (AFTER)

UTP620144700  
1 November 1985

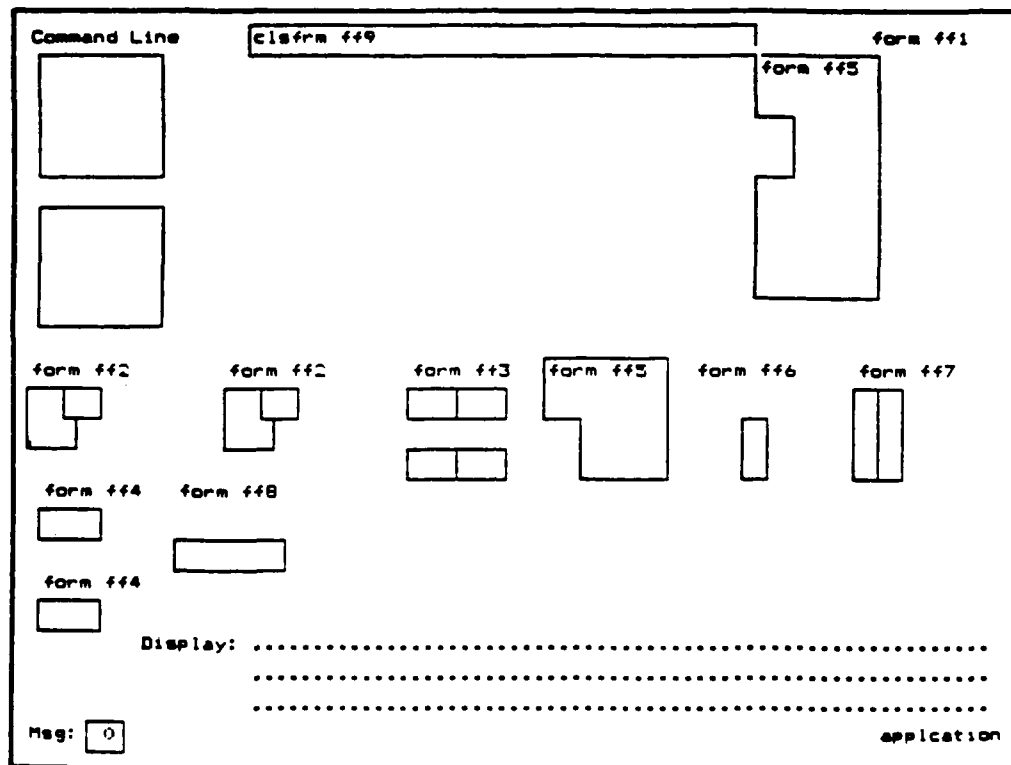


Figure 5-11a (BEFORE)

UTP620144700  
1 November 1985

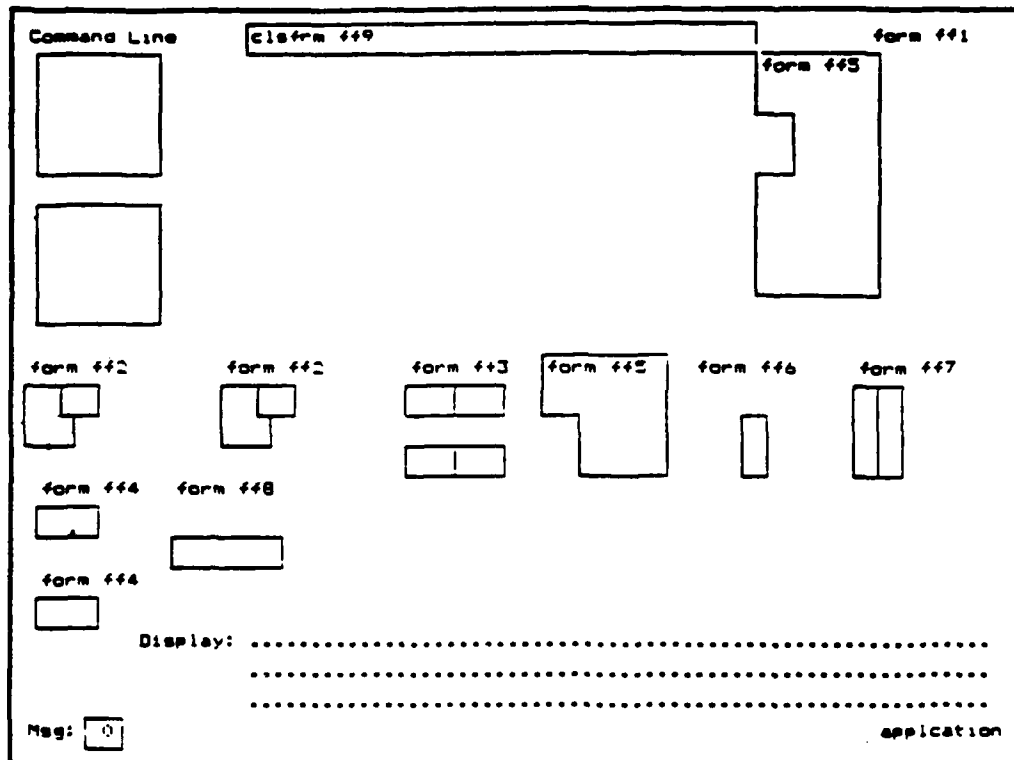


Figure 5-11b (AFTER)

UTP620144700  
1 November 1985

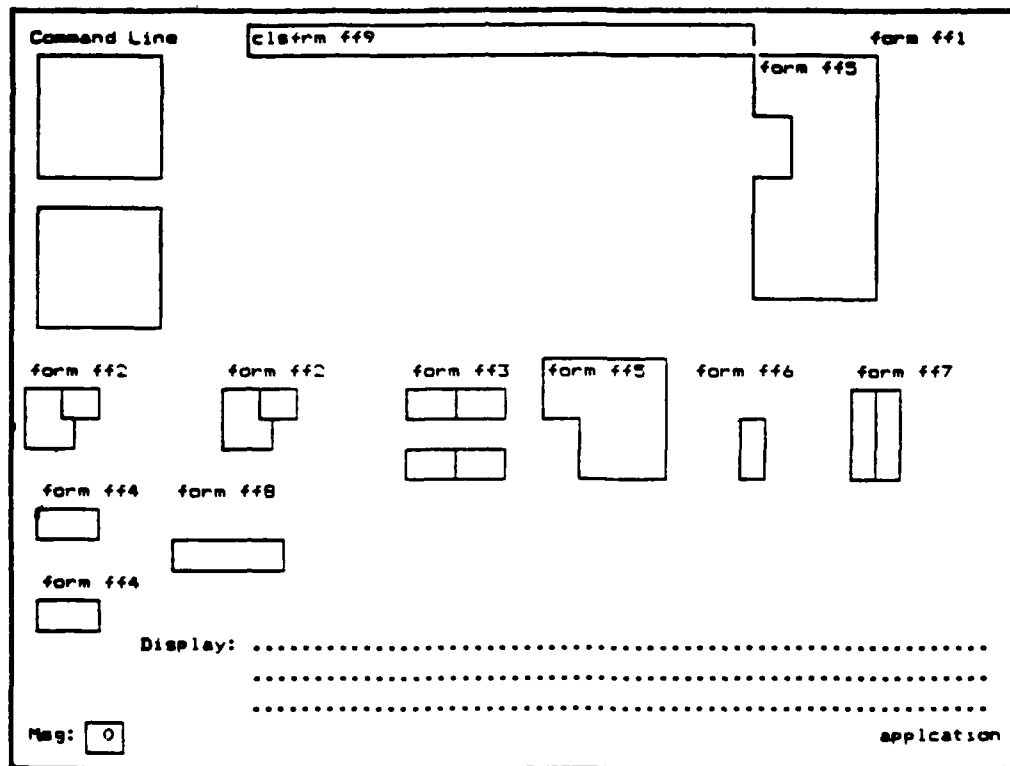


Figure 5-12a (BEFORE)

UTP620144700  
1 November 1985

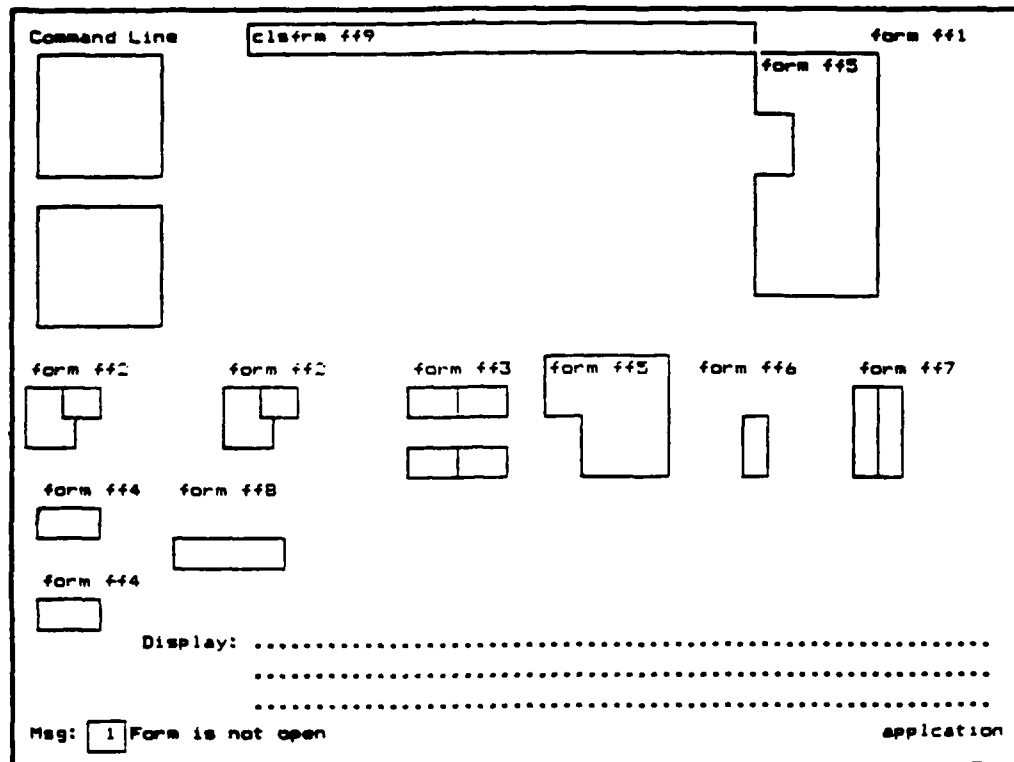


Figure 5-12b (AFTER)

UTP620144700  
1 November 1985

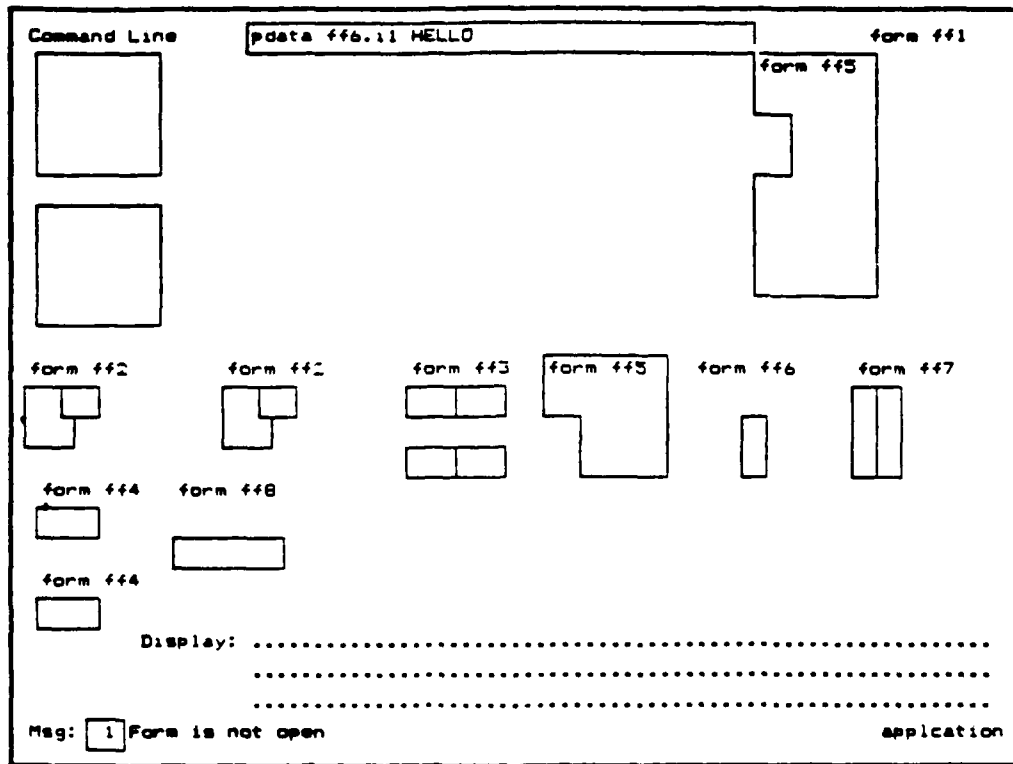


Figure 5-13a (BEFORE)

UTP620144700  
1 November 1985

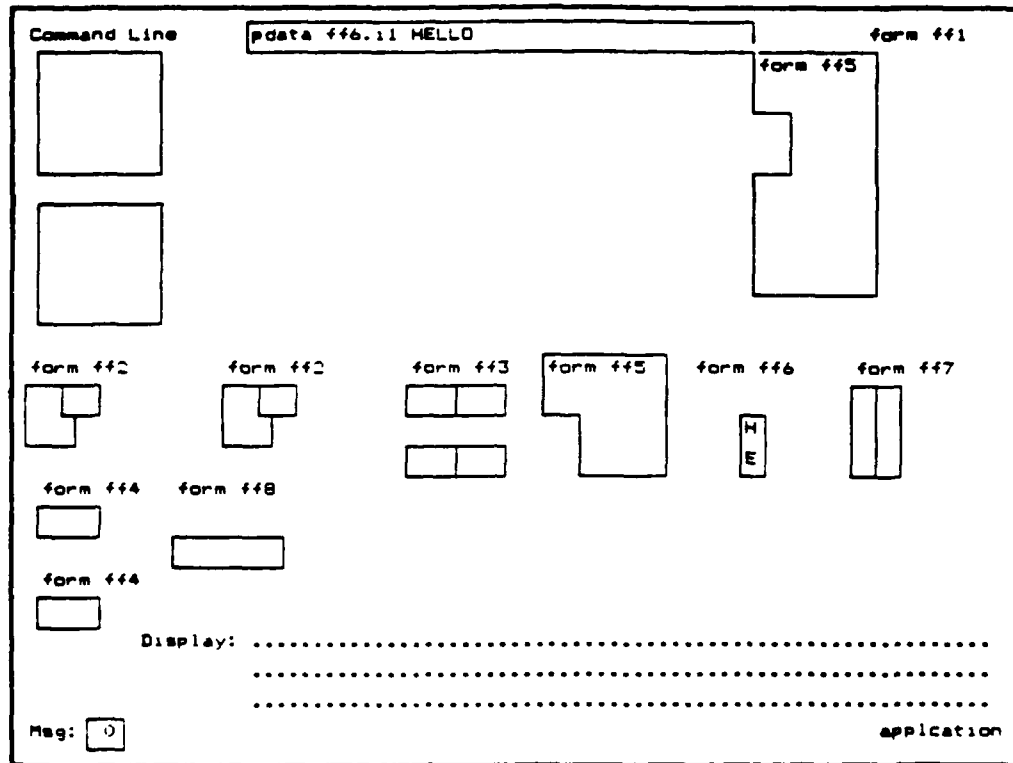


Figure 5-13b (AFTER)

UTP620144700  
1 November 1985

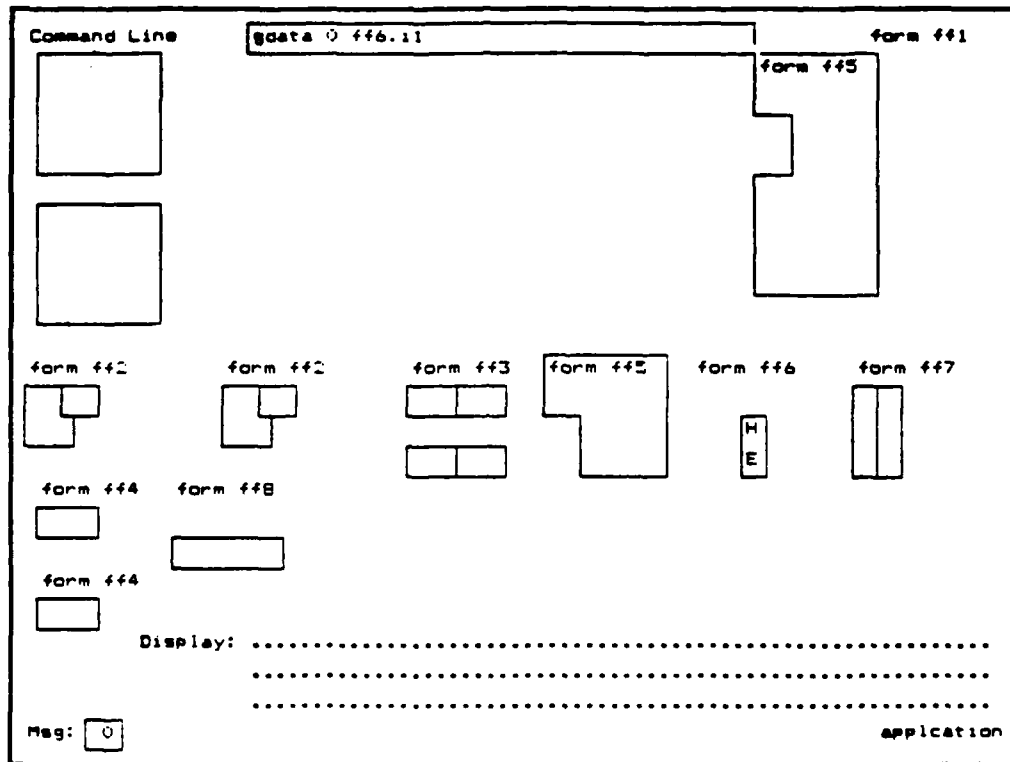


Figure 5-14a (BEFORE)

UTP620144700  
1 November 1985

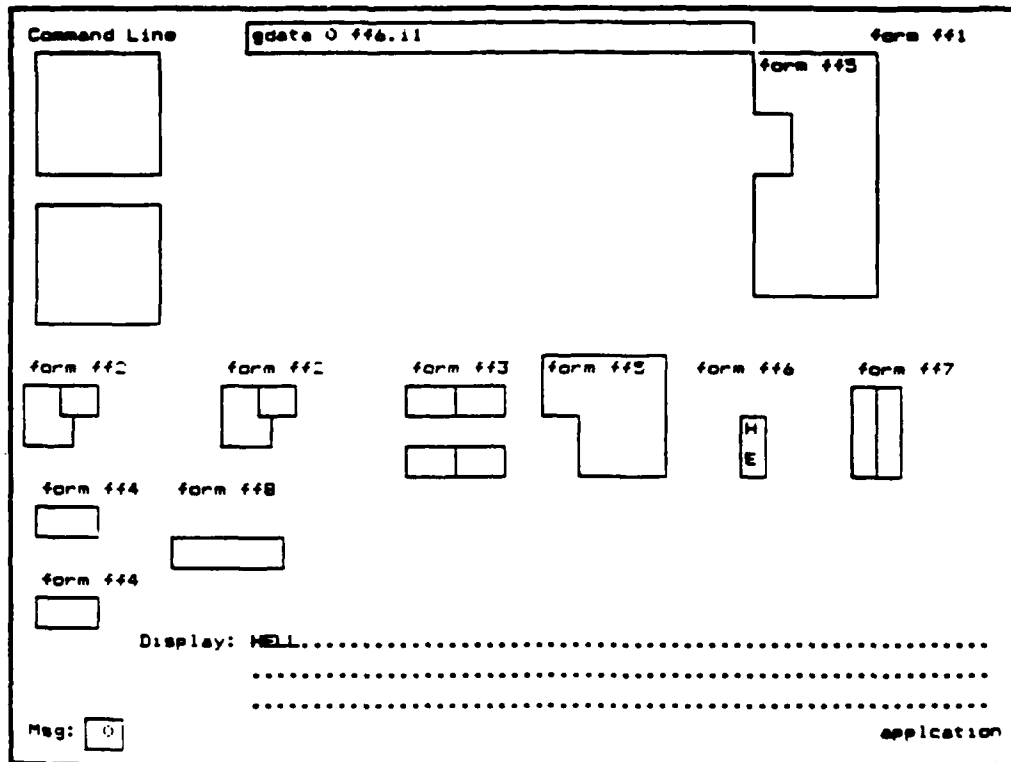


Figure 5-14b (AFTER)

UTP620144700  
1 November 1985

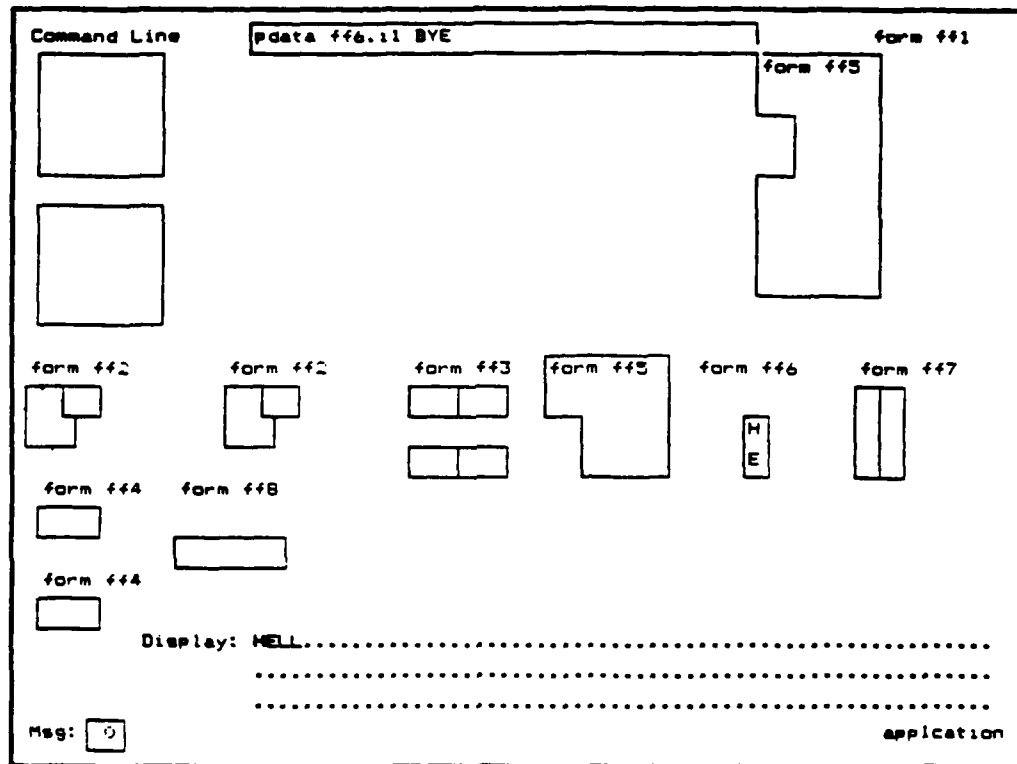


Figure 5-15a (BEFORE)

UTP620144700  
1 November 1985

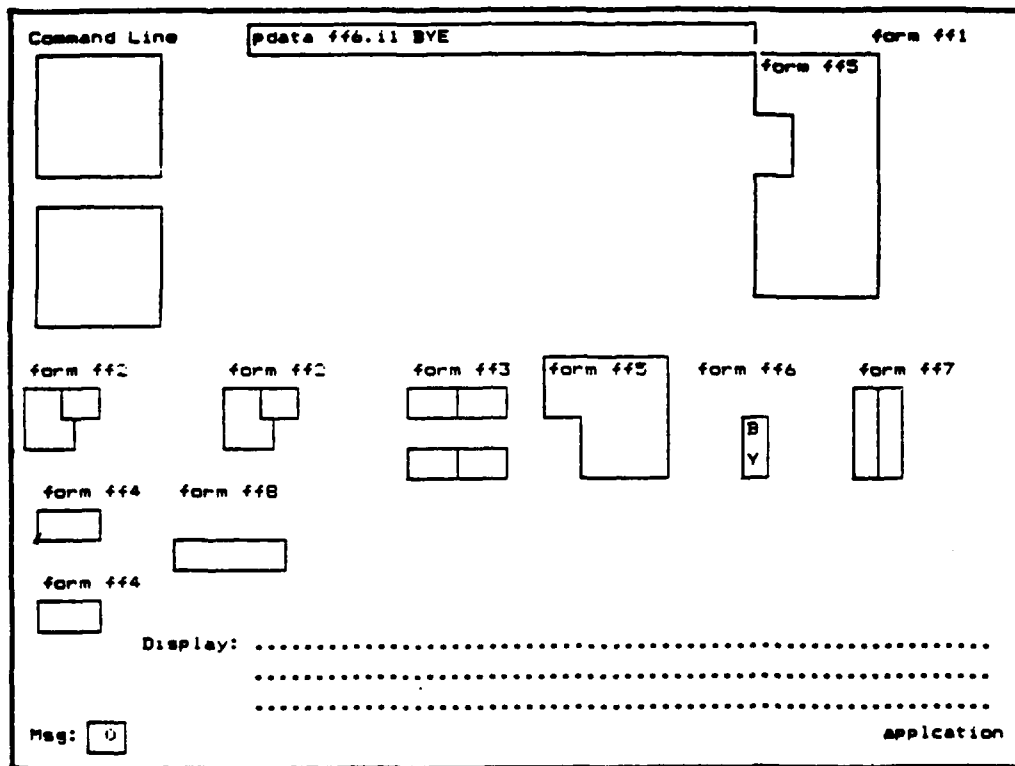


Figure 5-15b (AFTER)

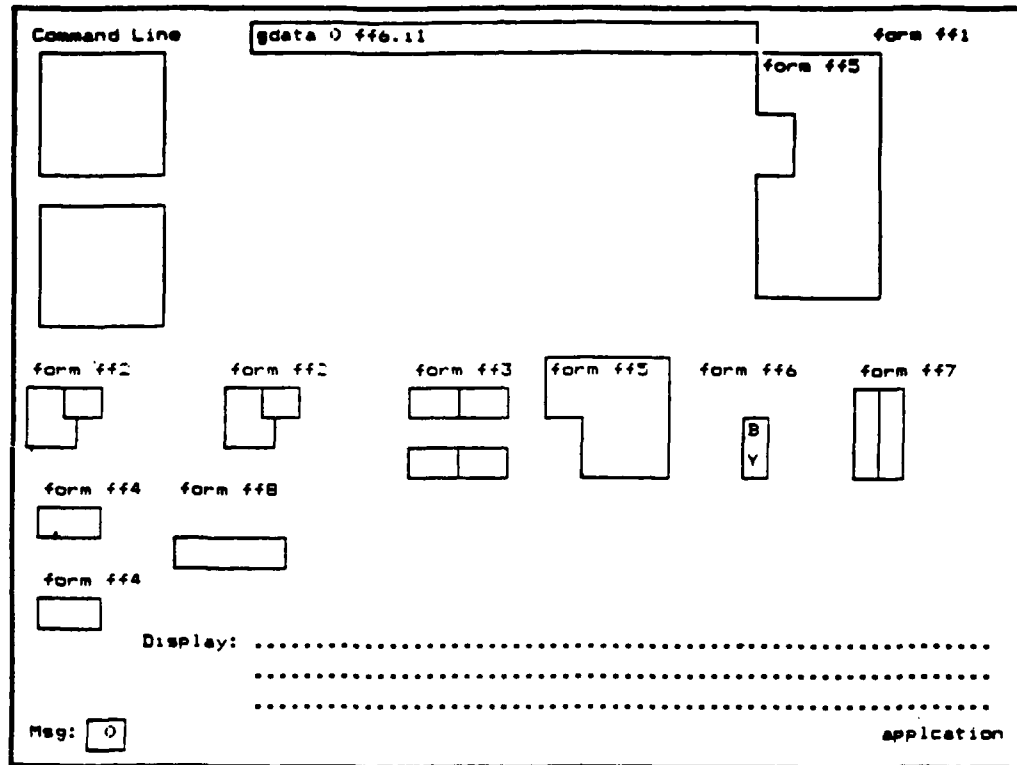


Figure 5-16a (BEFORE)

UTP620144700  
1 November 1985

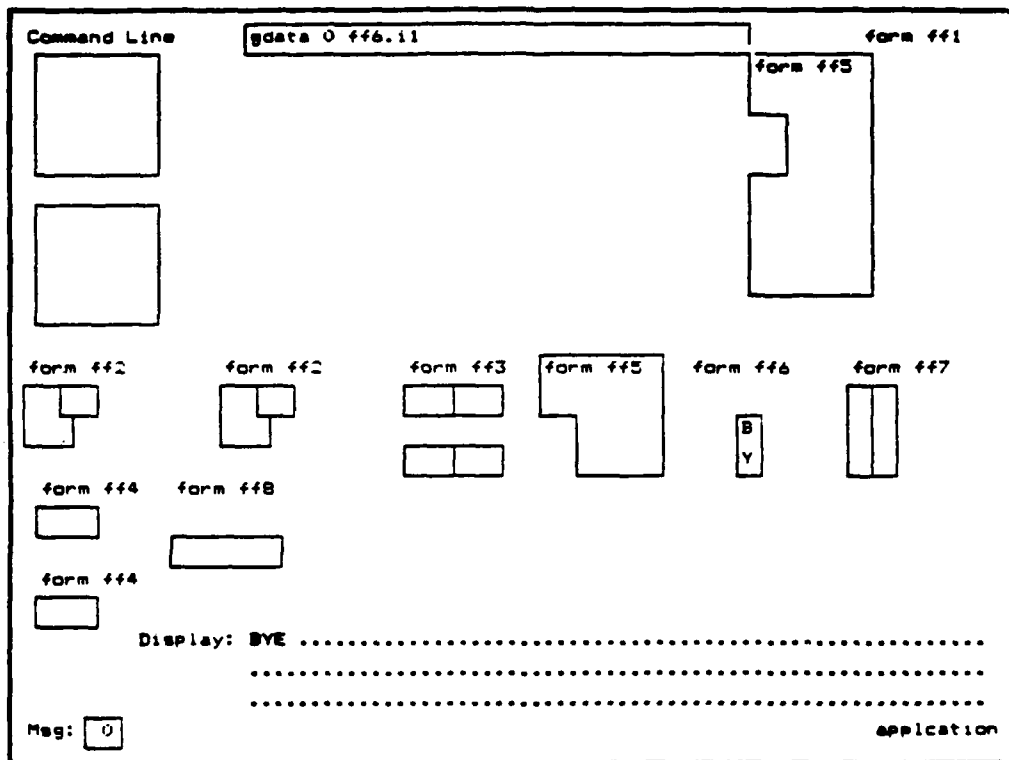


Figure 5-16b (AFTER)

UTP620144700  
1 November 1985

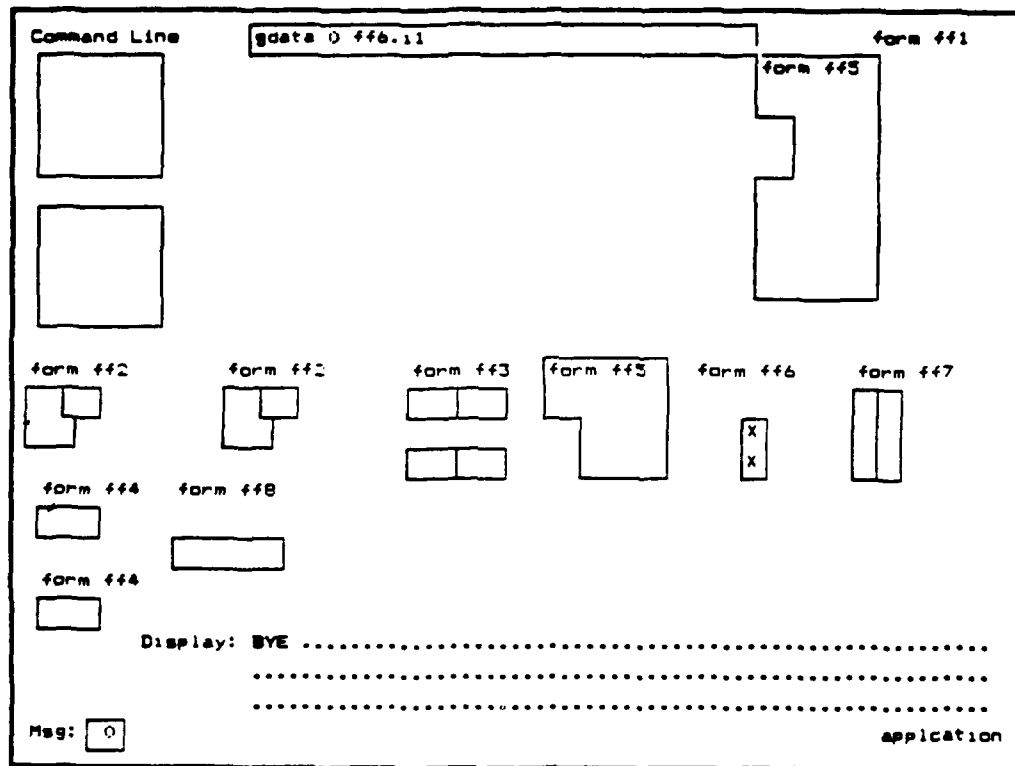
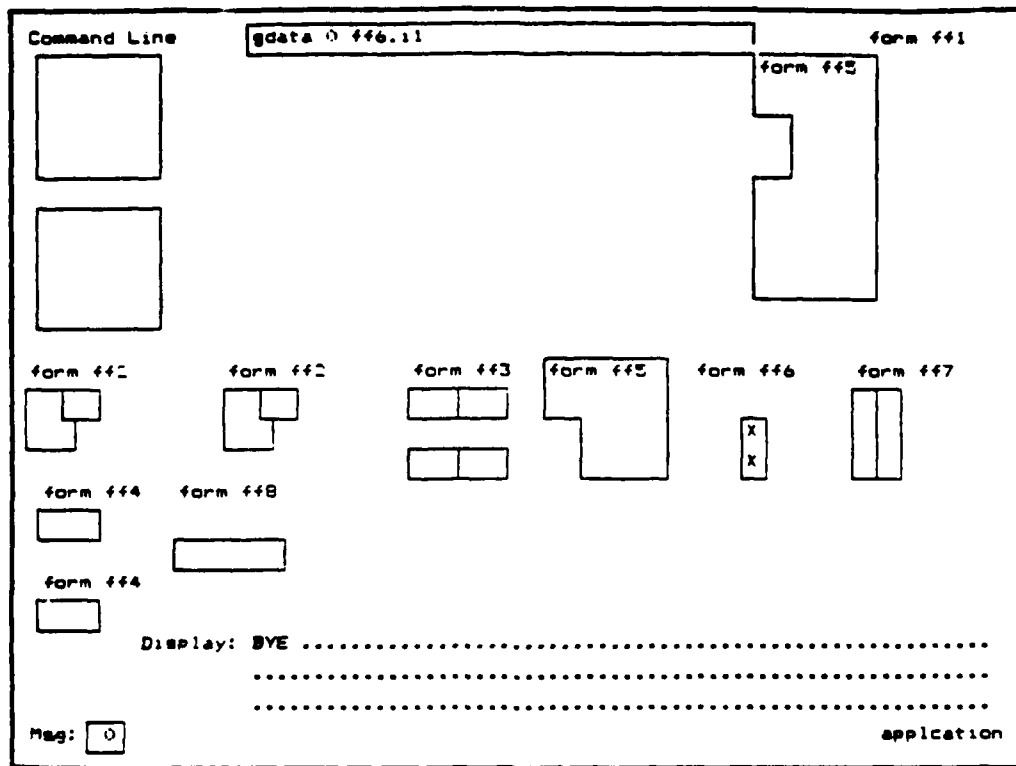


Figure 5-17a (BEFORE)

UTP620144700  
1 November 1985



**Figure 5-17b (AFTER)**

UTP620144700  
1 November 1985

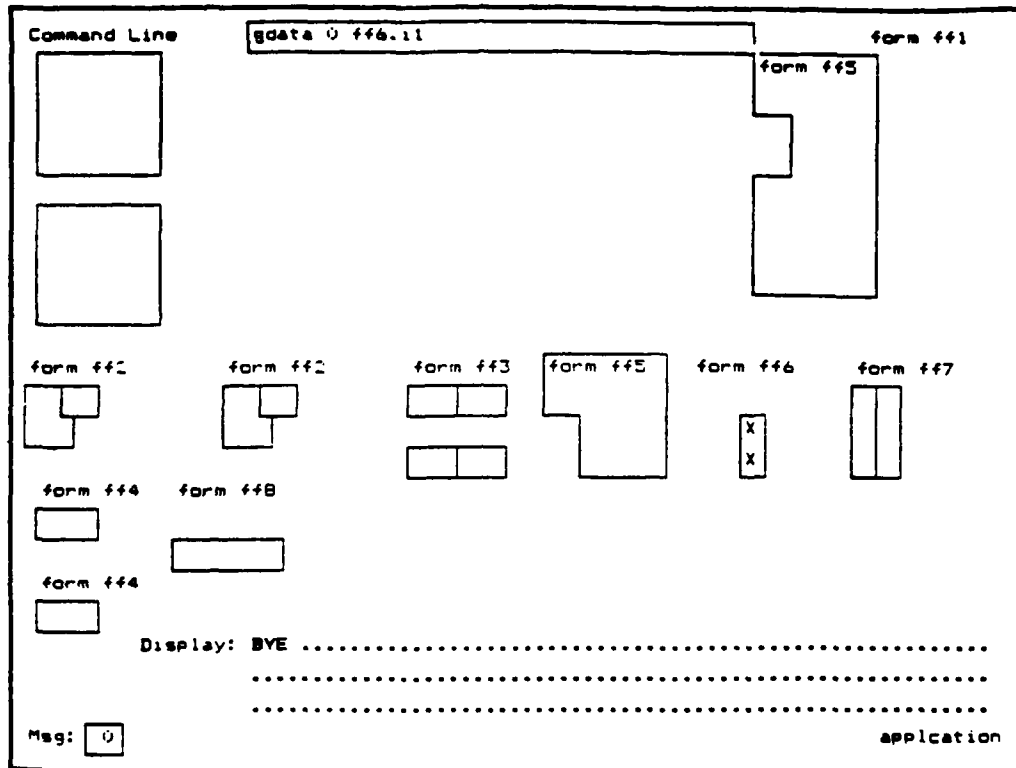


Figure 5-18a (FEFORE)

UTP620144700  
1 November 1985

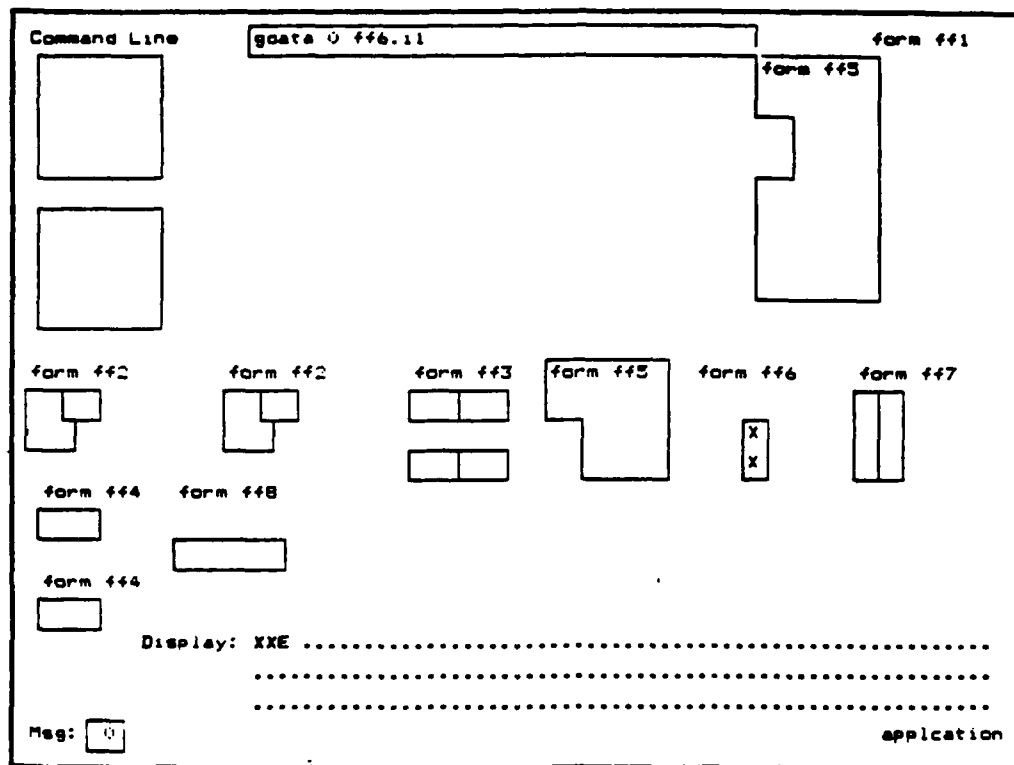
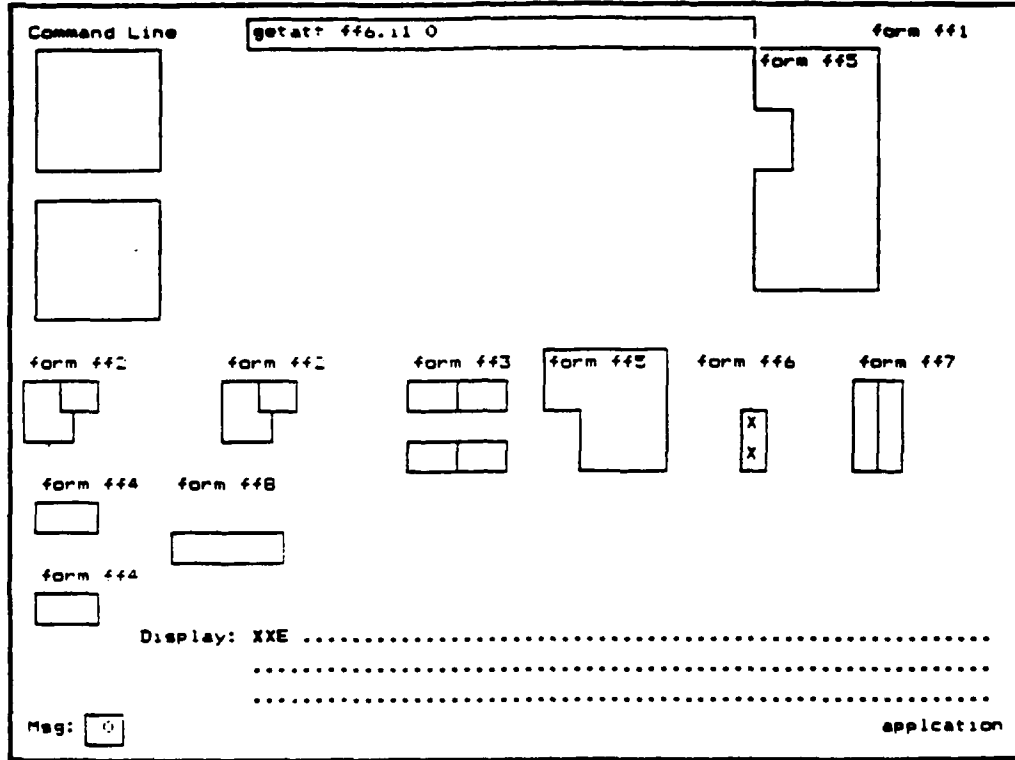


Figure 5-18b (AFTER)

UTP620144700  
1 November 1985



**Figure 5-19a (BEFORE)**

UTP620144700  
1 November 1985

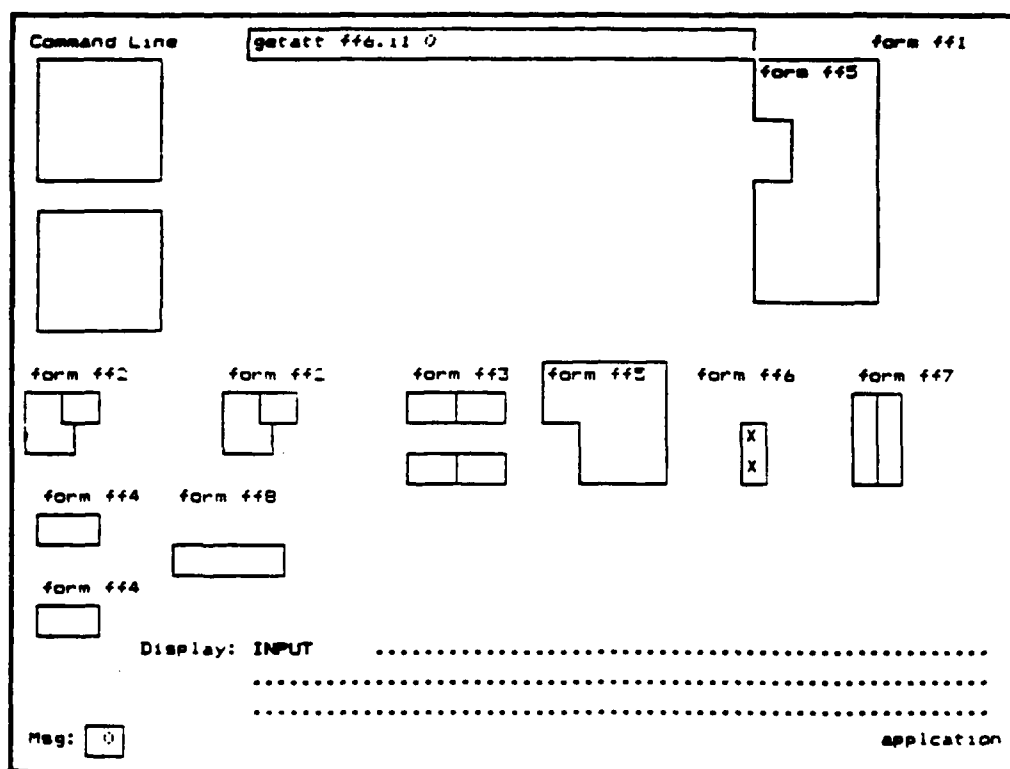


Figure 5-19b (AFTER)

UTP620144700  
1 November 1985

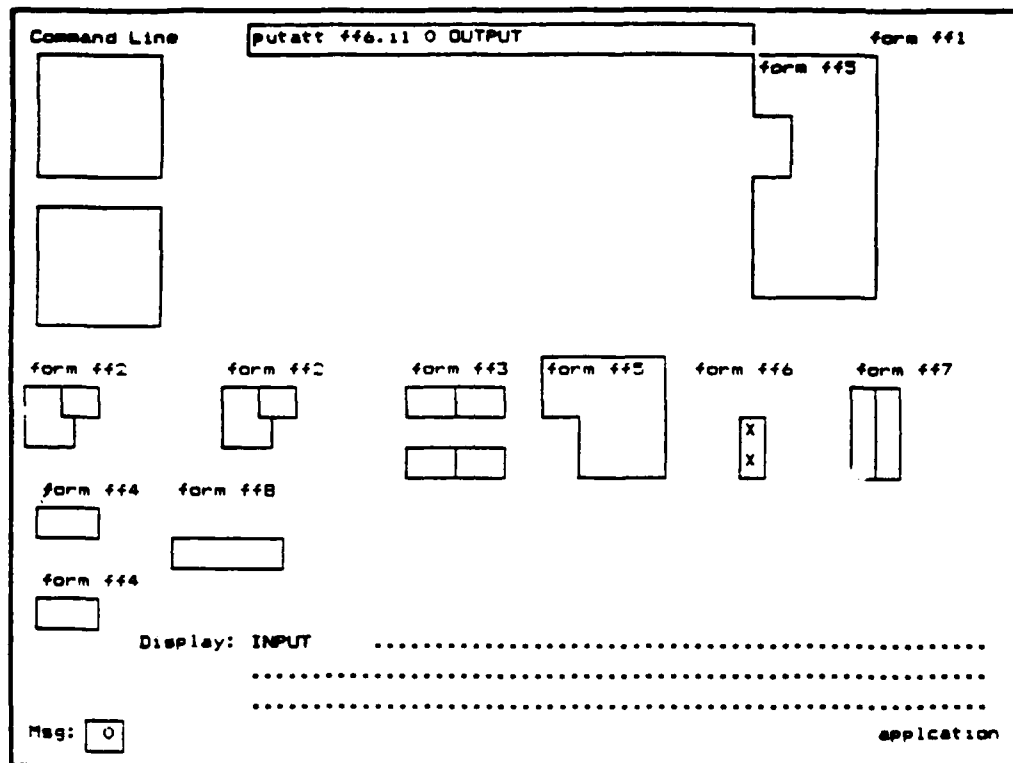


Figure 5-20a (BEFORE)

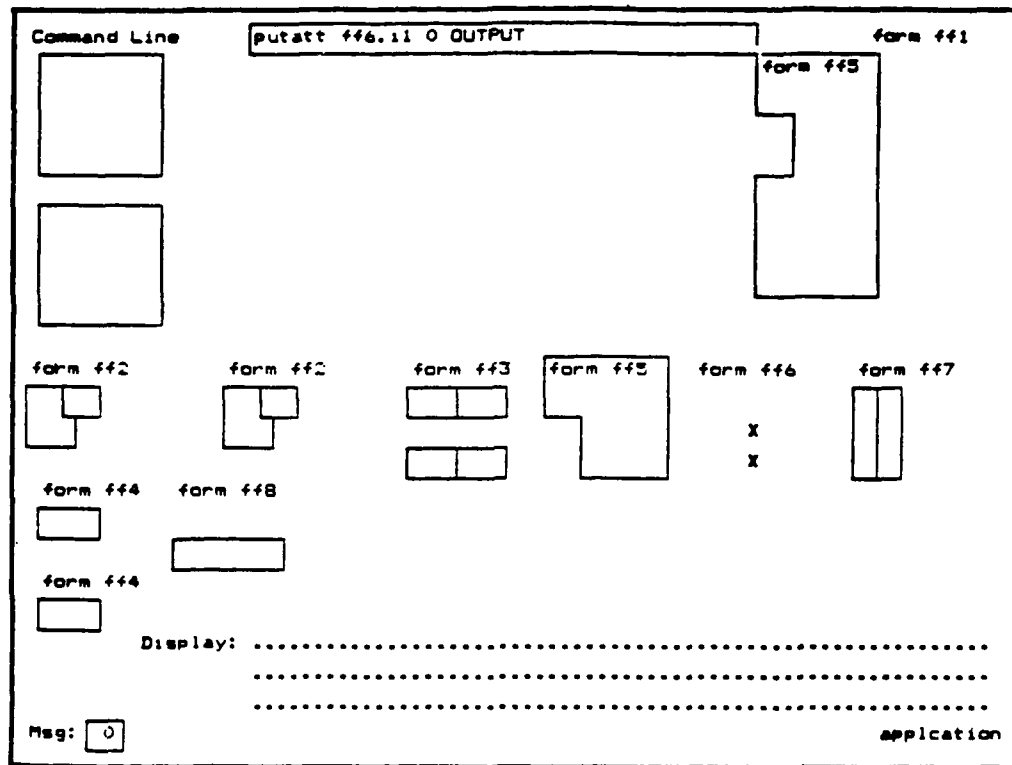


Figure 5-20b (AFTER)

UTP620144700  
1 November 1985

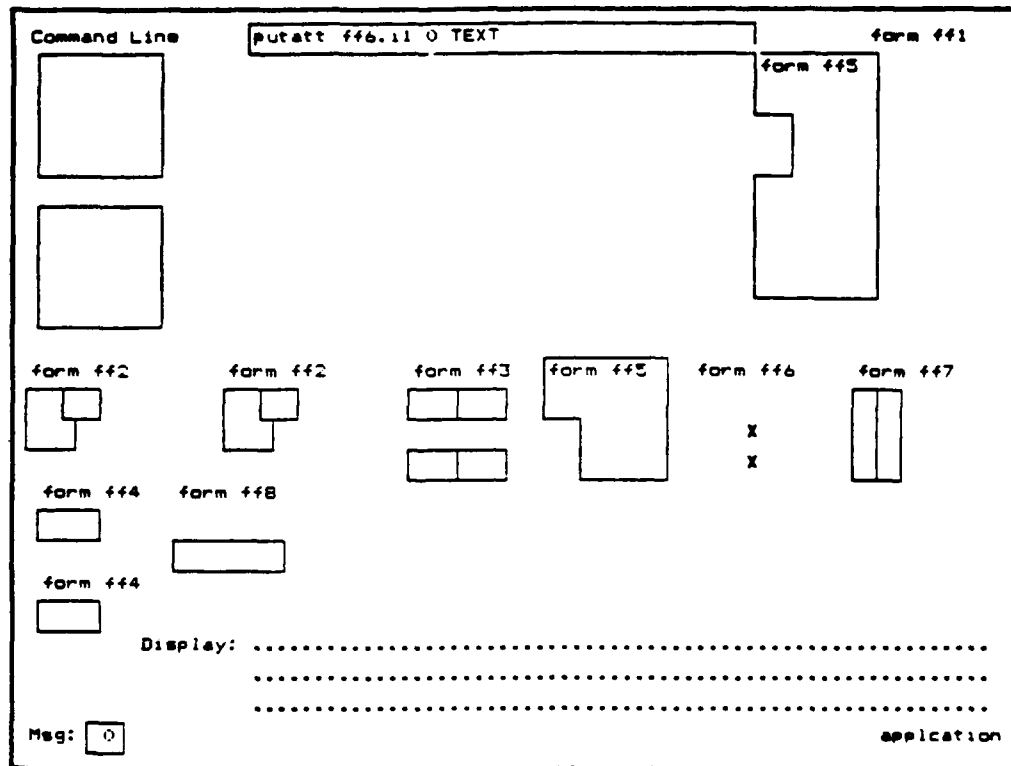


Figure 5-21a (BEFORE)

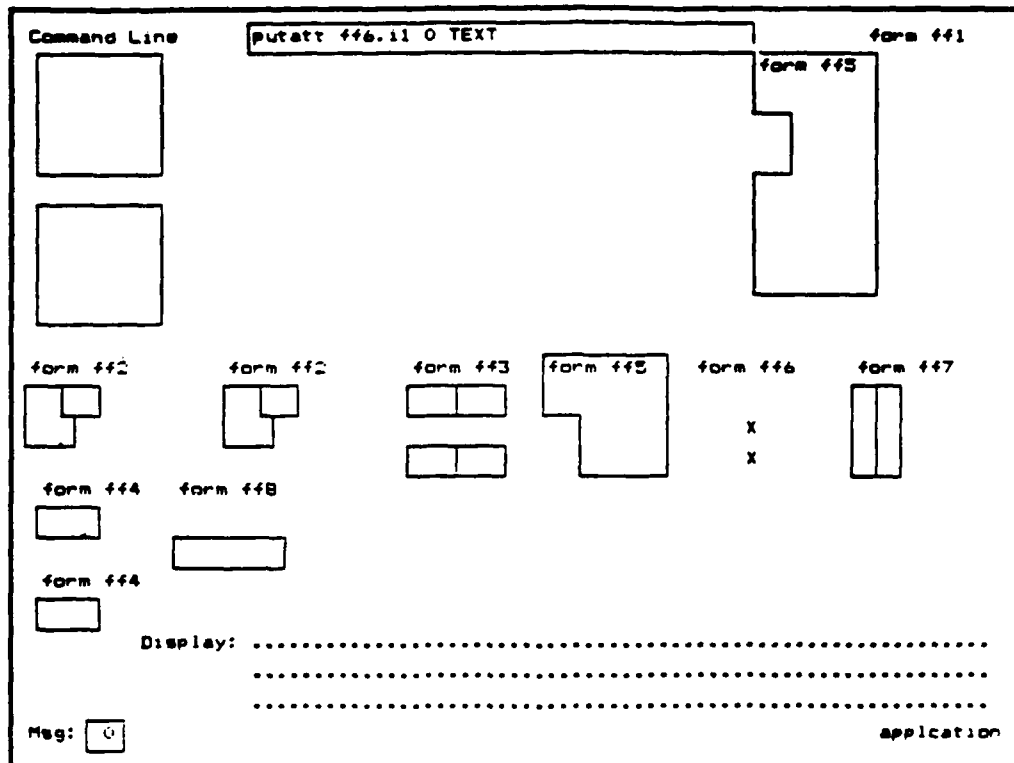


Figure 5-21b (AFTER)

UTP620144700  
1 November 1985

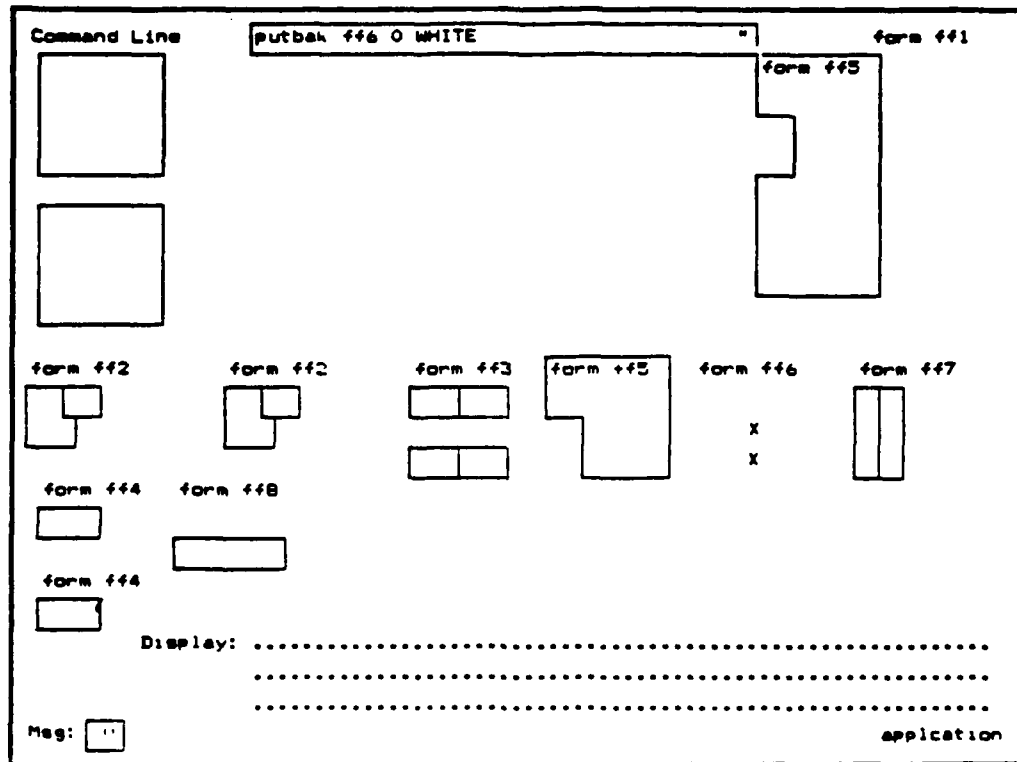


Figure 5-22a (BEFORE)

UTP620144700  
1 November 1985

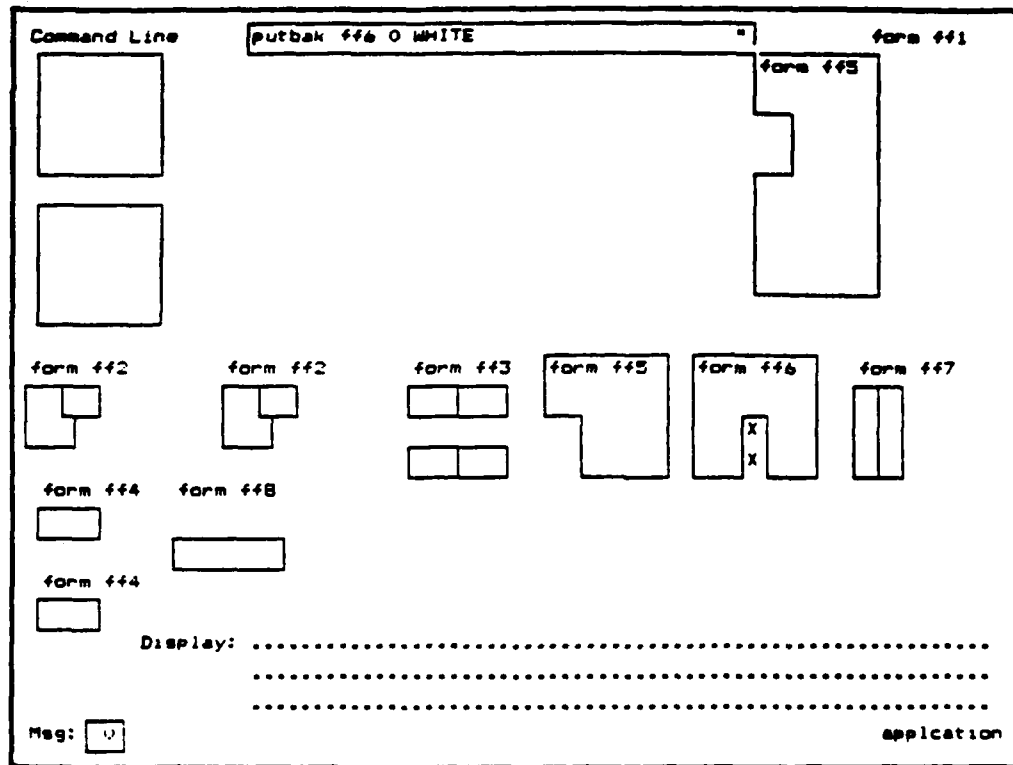


Figure 5-22b (AFTER)

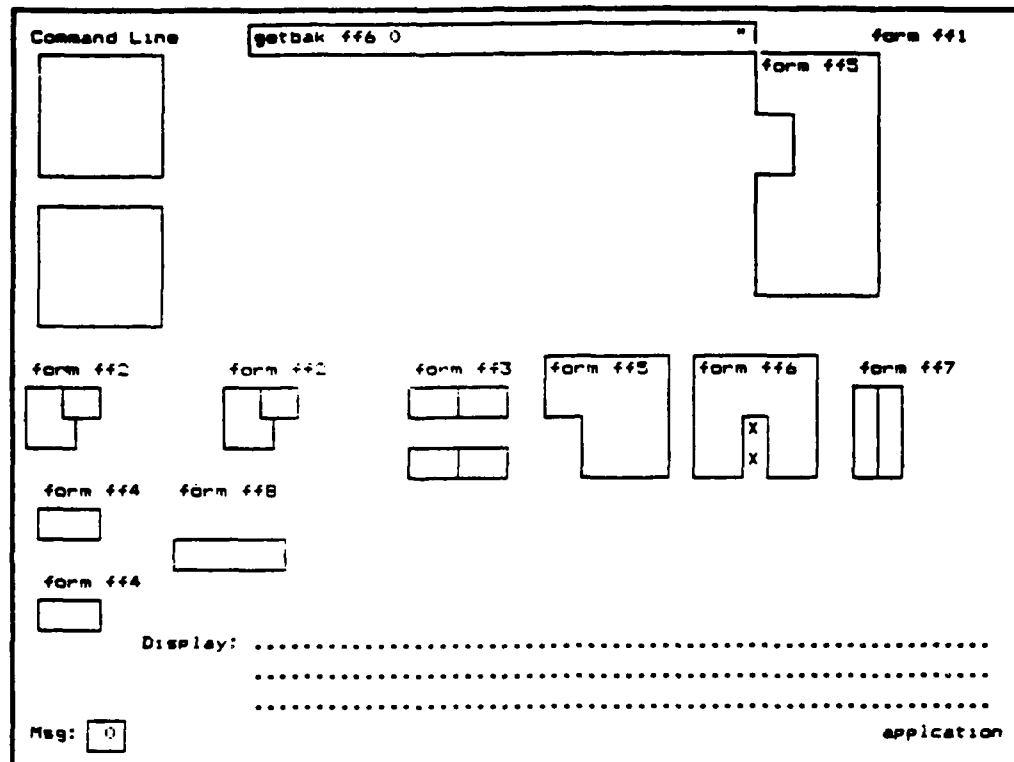


Figure 5-23a (BEFORE)

UTP620144700  
1 November 1985

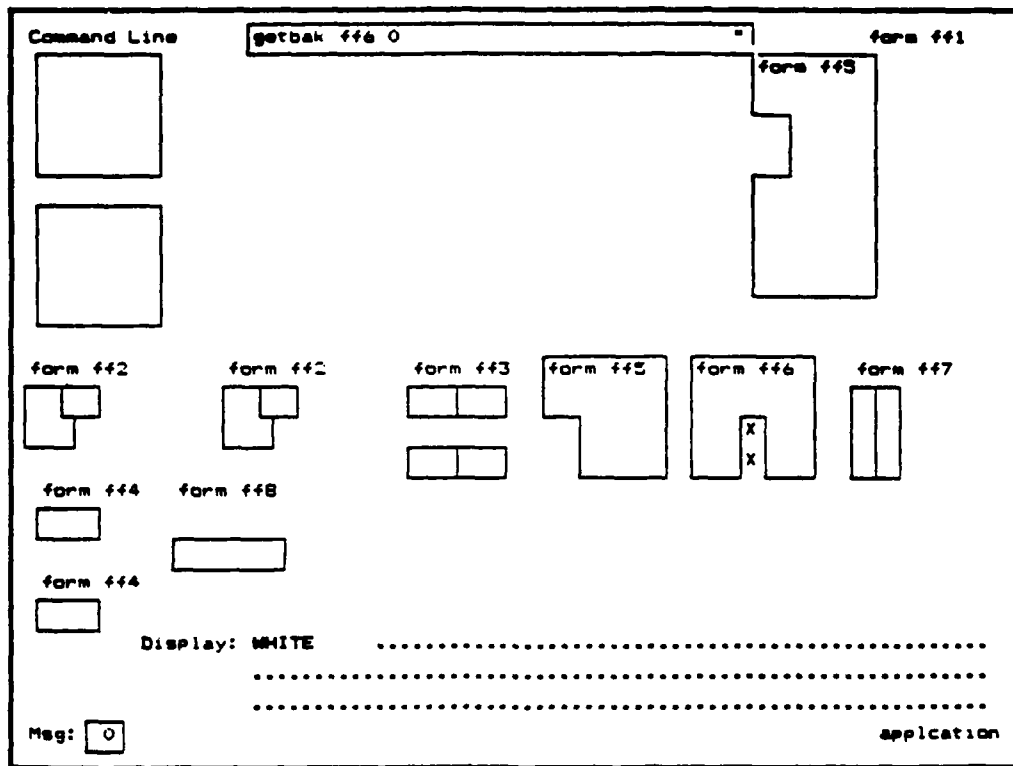


Figure 5-23b (AFTER)

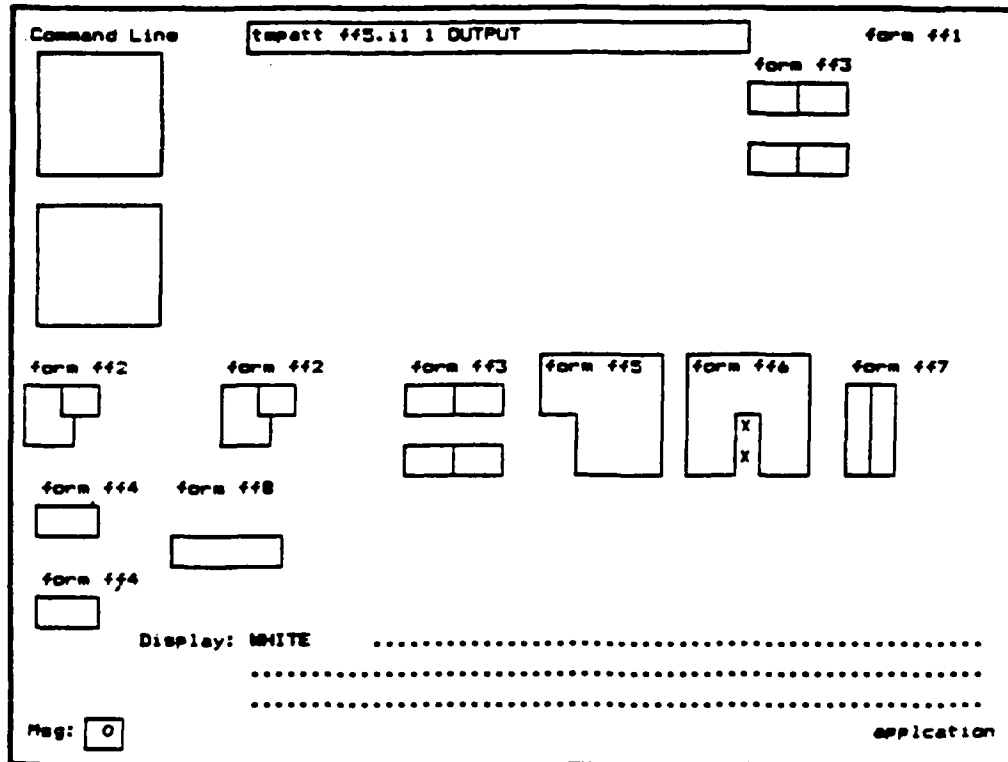


Figure 5-24a (BEFORE)

UTP620144700  
1 November 1985

Command Line  form ff1

form ff3

form ff2

form ff2

form ff3

form ff5

form ff6

X

X

form ff7

form ff4

form ff8

form ff4

Display: OUTPUT .....

Msg:  application

Figure 5-24b (AFTER)

UTP620144700  
1 November 1985

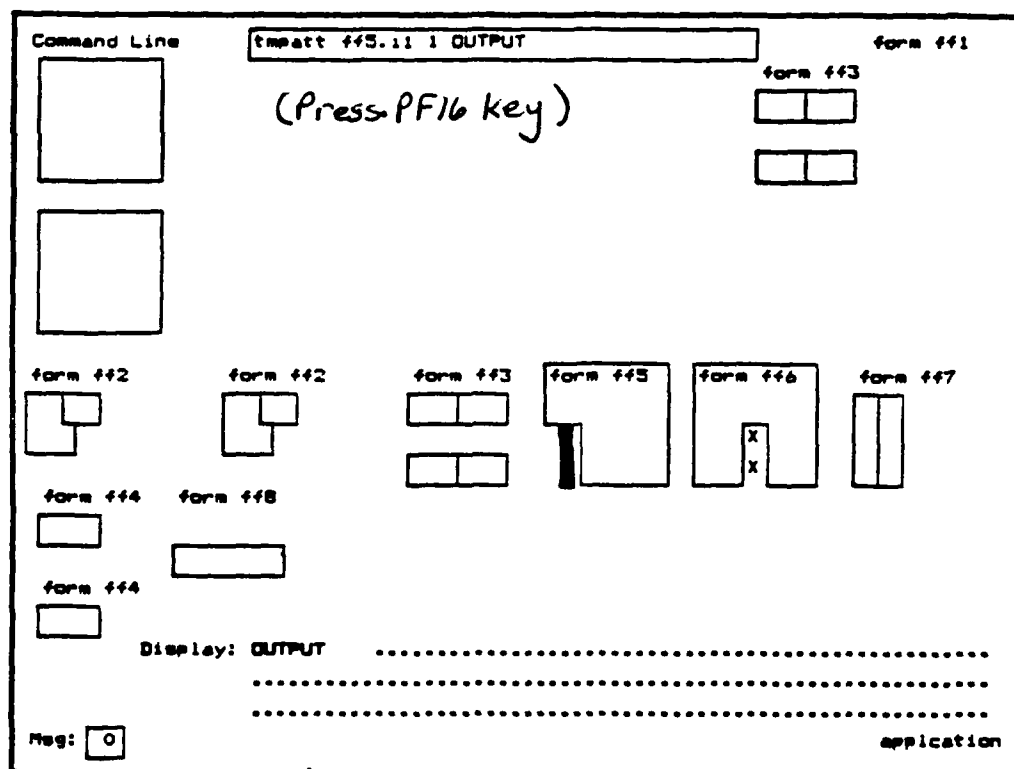


Figure 5-25a (BEFORE)

UTP620144700  
1 November 1985

Command Line

form ff1

form ff3

form ff2

form ff2

form ff3

form ff5

form ff6

form ff7

form ff4

form ff8

form ff4

Display: type = 1, row = 1, col = 17, fqn = PSCREEN.SCREEN(1).FF1.141

Msg:

application

Figure 5-25b (AFTER)

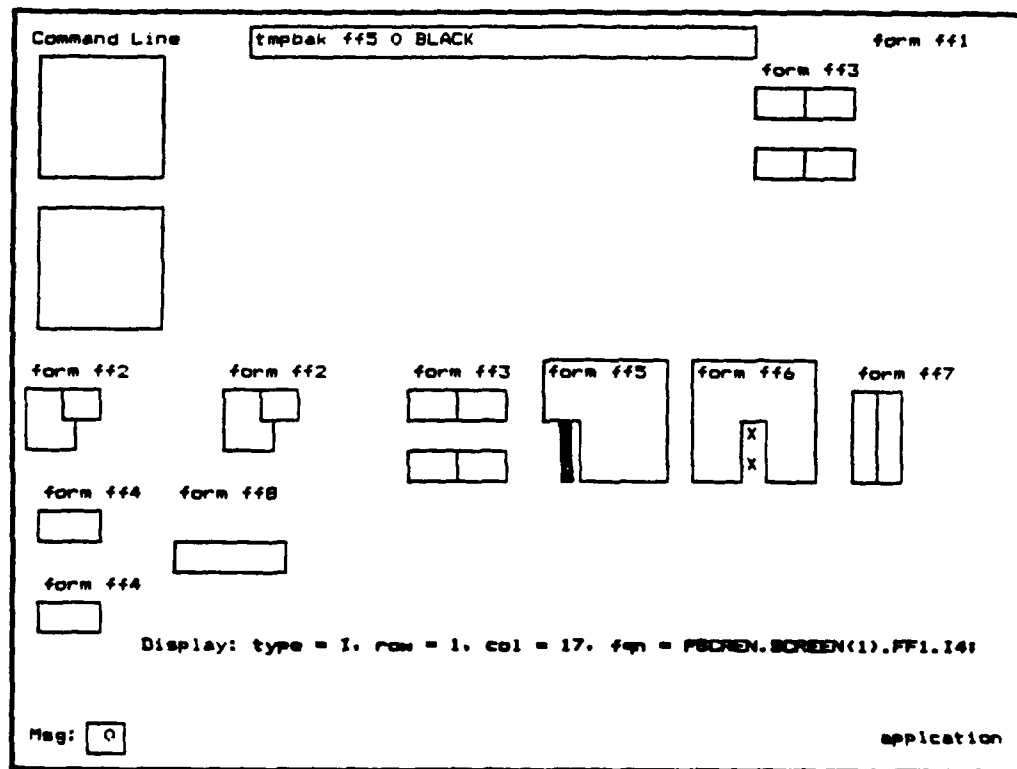


Figure 5-26a (BEFORE)

UTP620144700  
1 November 1985

Command Line      tapbak f45 0 BLACK      form f41

form f43

form f42      form f42      form f43      form f45      form f46      form f47

form f44      form f48

form f44

Display: BLACK .....

Msg: 0      application

Figure 5-26b (AFTER)

UTP620144700  
1 November 1985

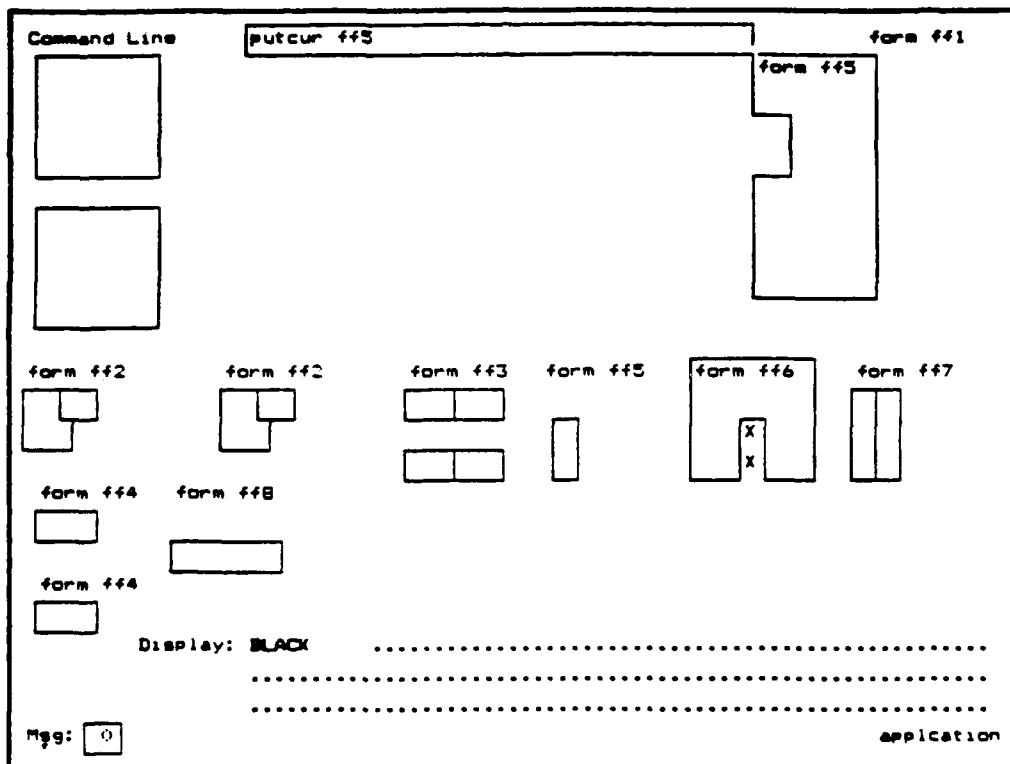


Figure 5-27a (BEFORE)

UTP620144700  
1 November 1985

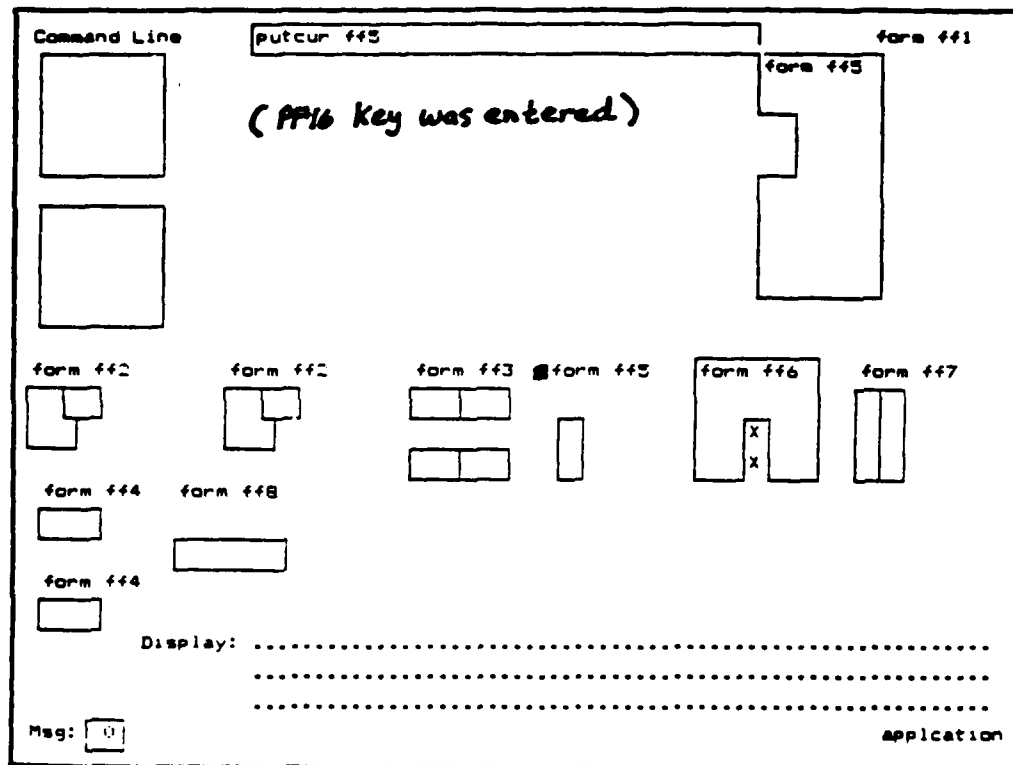


Figure 5-27b (AFTER)

UTP620144700  
1 November 1985

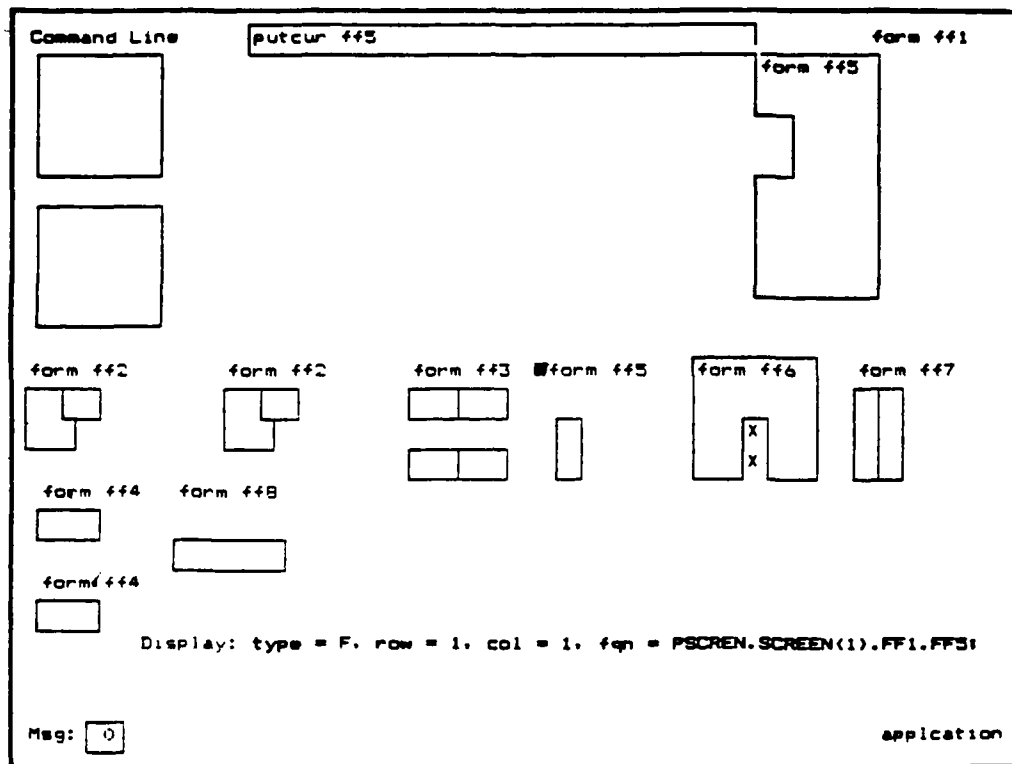


Figure 5-27c (AFTER 5-27b PF key)

UTP620144700  
1 November 1985

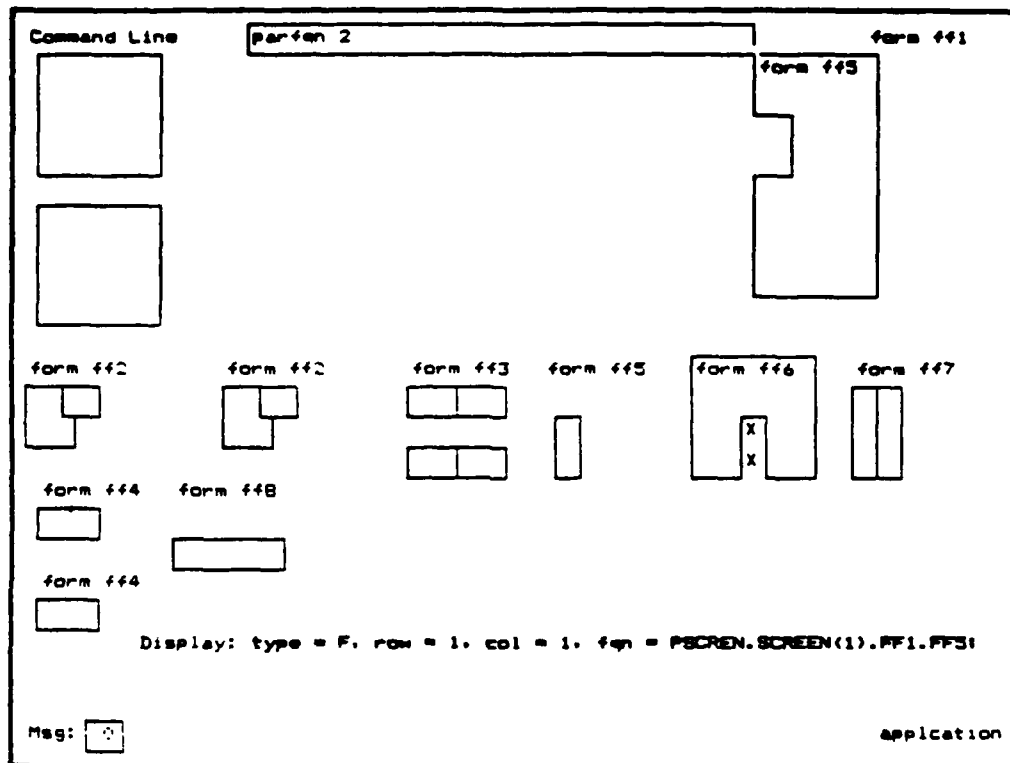


Figure 5-28a (BEFORE)

UTP620144700  
1 November 1985

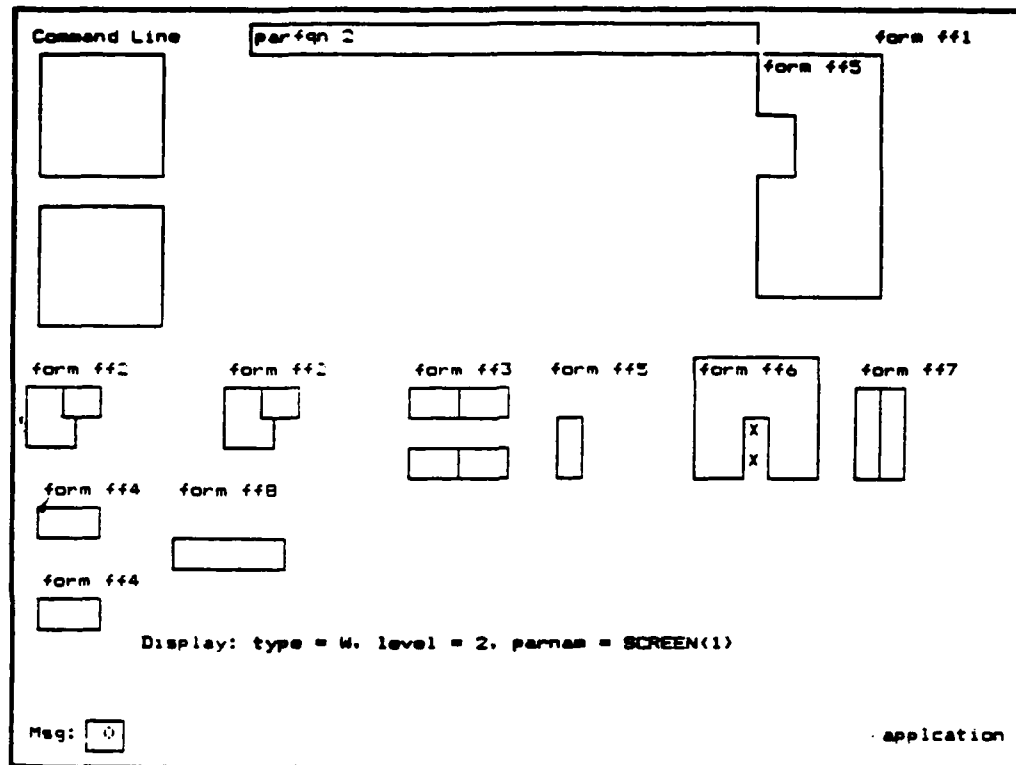


Figure 5-28b (AFTER)

UTP620144700  
1 November 1985

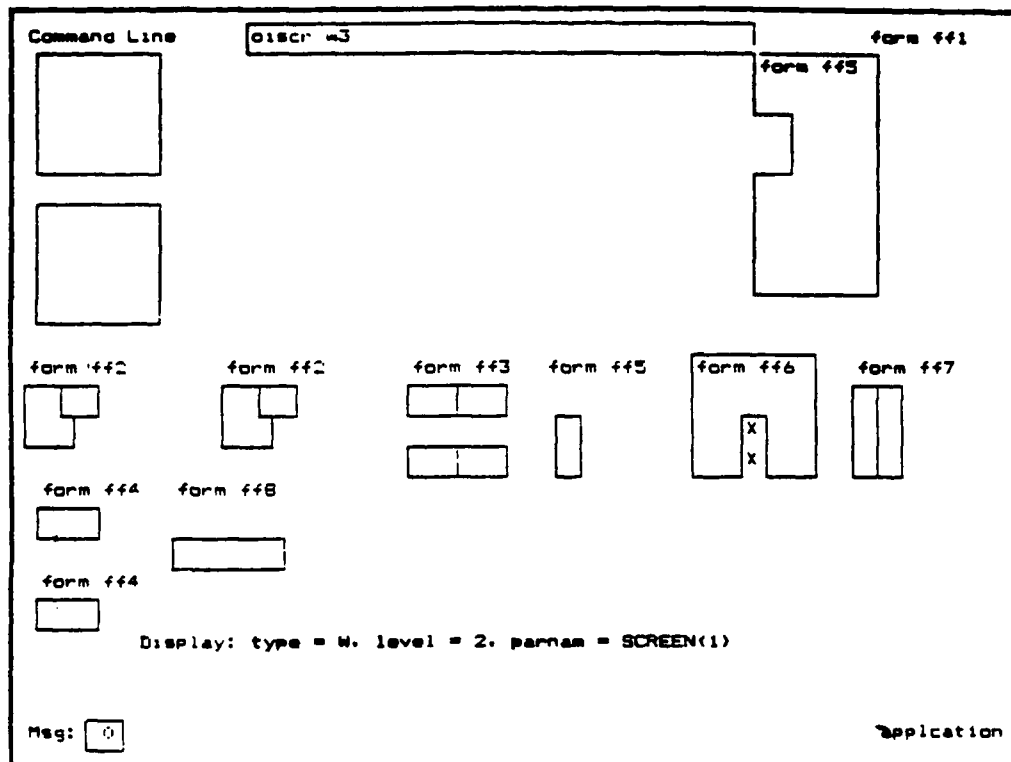


Figure 5-29a (BEFORE)

Command Line      descr w3      form ff1

(May only tab to items in  
ff5 and the HSG item)  
HIT ENTER

form ff5

form ff2      form ff2      form ff3      form ff3      form ff6      form ff7

form ff4      form ff8

form ff4

Display: .....  
.....  
.....

Msg: 0      application

Figure 5-29b (AFTER)

UTP620144700  
1 November 1985

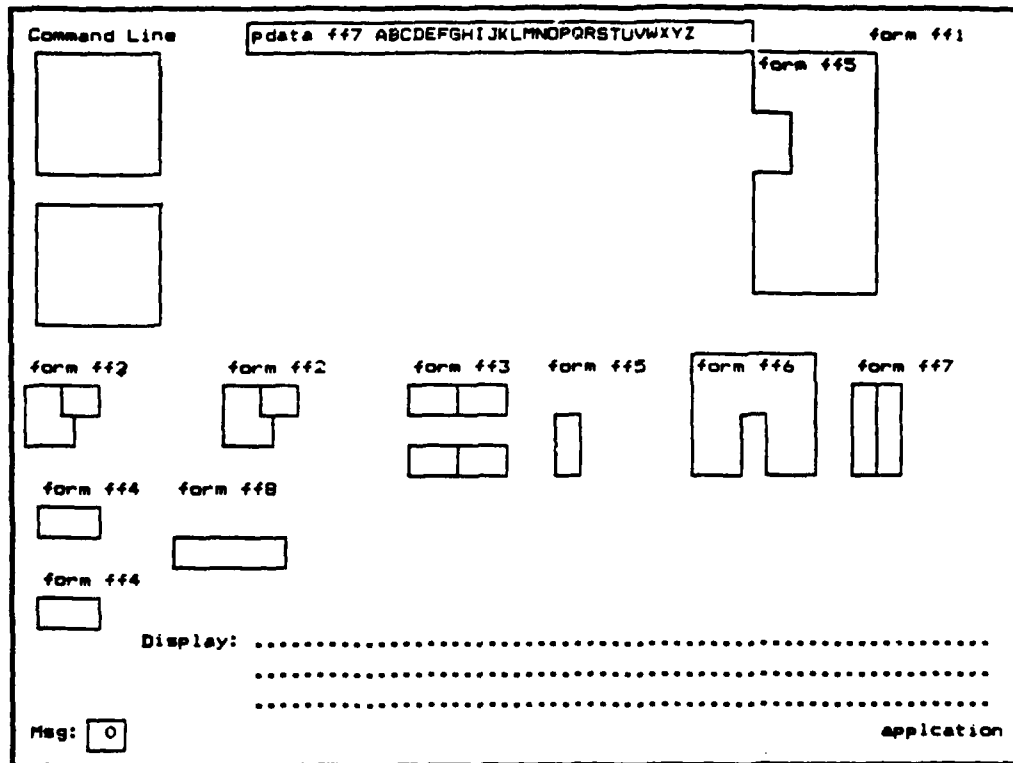


Figure 5-30a (BEFORE)

Command Line      pdate f47 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form f41

(Hit FP mode key to  
get in scrll/page mode)

form f45

form f42      form f42      form f43      form f45      form f46      form f47

form f44      form f48

form f44

Display: .....

Mag: 0      application

Figure 5-30b (AFTER)

Command Line      pdata ff7 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form ff1

(Hit PF5 SCROLL up)

form ff2      form ff2      form ff3      form ff5      form ff6      form ff7

form ff4      form ff8

form ff4

Display: .....  
.....  
.....

Mag: 0      scroll/page

Figure 5-31a (BEFORE)

UTP620144700  
1 November 1985

Command Line      pdata f77 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form f71

form f75

form f72      form f72      form f73      form f75      form f76      form f77

form f74      form f78

form f74

Display: .....

Msg: ☐      scr11/page

Figure 5-31b (AFTER)

UTP620144700  
1 November 1985

Command Line      pdata f47 ABCDEFGH:JKLMNOPQRSTUVWXYZ      form f41

(HIT PF6 SCROLL DOWN)

form f42      form f42      form f43      form f45      form f46      form f47

form f44      form f48

form f44

Display: .....  
.....  
.....

Mag: 0      scroll/page

Figure 5-32a (BEFORE)

UTP620144700  
1 November 1985

Command Line      pdata f47 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form f41

form f42      form f42      form f43      form f45      form f46      form f47

form f44      form f48

form f44

Display: .....

Msg: 0

scr11/page

Figure 5-32b (AFTER)

Command Line      pdata f47 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form f41

(Hit PF7 SCROLL LEFT)

form f45

form f42      form f42      form f43      form f45      form f46      form f47

form f44      form f48

form f44

Display: .....

Msg: 0      scroll/page

Figure 5-33a (BEFORE)

UTP620144700  
1 November 1985

Command Line      pdata ff7 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form ff1

form ff2      form ff2      form ff3      form ff5      form ff6      form ff7

form ff4      form ff8

form ff4

Display: .....

Msg: ☐      scr11/page

Figure 5-33b (AFTER)

UTP620144700  
1 November 1985

Command Line      pdata f47 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form f41

(Hit PF8 scroll Right)

form f45

form f42      form f42      form f43      form f45      form f46      form f47

form f44      form f48

form f44

Display: .....  
.....  
.....

Mag: 0      scroll/page

Figure 5-34a (BEFORE)

AD-A182 663

INTEGRATED INFORMATION SUPPORT SYSTEM (IIS) VOLUME 8  
USER INTERFACE SUBS. (U) GENERAL ELECTRIC CO  
SCHENECTADY NY PRODUCTION RESOURCES CONSU.

2/2

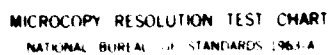
UNCLASSIFIED

C MORENC ET AL. 01 NOV 85 UTP-620144700

F/G 12/5

NL

END  
8.87  
DTIC



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

UTP620144700  
1 November 1985

Command Line      **data f17 ABCDEFGHIJKLMNOPQRSTUVWXYZ**      form f11

form f12      form f12      form f13      form f15      form f16      form f17

form f14      form f18

form f14

Display: .....

Mag: ☐ 0

scrib/page

Figure 5-34b (AFTER)

Command Line    pdata f47 ABCDEFGHIJKLMNOPQRSTUVWXYZ    form f41

(Hit PF9 Page UP)

form f42    form f42    form f43    form f45    form f46    form f47

form f44    form f48

form f44

Display: .....

Mag: 0

scr11/page

Figure 5-35a (BEFORE)

UTP620144700  
1 November 1985

Command Line

pdata f#7 ABCDEFGHIJKLMNOPQRSTUVWXYZ

form f#1

form f#2

form f#3

form f#4

form f#5

form f#6

form f#7

form f#2

form f#3

form f#4

form f#5

form f#6

form f#7

Display: .....

Mag: 0

scroll/page

**Figure 5-35b (AFTER)**

UTP620144700  
1 November 1985

Command Line      pdata f47 ABCDEFHIJKLMNOPSTUWVYZ      form f41

(HIT PF10 PAGE DOWN)

form f42      form f42      form f43      form f45      form f46      form f47

form f44      form f48

form f44

Display: .....

Tag: 0      scroll/page

Figure 5-36a (BEFORE)

UTP620144700  
1 November 1985

Command Line      pdate f17 ABCDEFHJ KLMNOPQRSTUWXYZ      form f11

form f15

form f12      form f12      form f13      form f15      form f16      form f17

form f14      form f18

form f14

Display: .....  
.....  
.....

Mag: 0      scrl1/page

Figure 5-36b (AFTER)

Command Line      pdata 117 ABCDEFHILMNOPQRSTUVWXYZ      form 111

(Hit PF11 Page LEFT)

form 112      form 112      form 113      form 113      form 116      form 117

form 114      form 118

form 114

Display: .....

Mag: 0

scri1/page

Figure 5-37a (BEFORE)

UTP620144700  
1 November 1985

Command Line pdata f47 ABCDEFGHIJKLMNOPQRSTUVWXYZ form f41

form f42

form f42

form f43

form f45

form f46  

X  
X

form f47  

|   |   |
|---|---|
| C | D |
| E | H |
| K | L |

form f44

form f48

form f44

Display: .....

Mag: 0

scri1/page

Figure 5-37b (AFTER)

Command Line pdata f17 ABCDEFGHIJKLMNOPQRSTUVWXYZ form f11

(Hrt PF12 Page Right)

form f12

form f12

form f13

form f15

form f16

form f17  

|   |   |
|---|---|
| C | D |
| E | H |
| K | L |

form f14

form f18

form f14

Display: .....  
.....  
.....

Mag: 0scri1/page

Figure 5-38a (BEFORE)

UTP620144700  
1 November 1985

Command Line    pdata f17 ABCDEFHIJKLMNOPQRSTUVWXYZ    form f11

form f12    form f12    form f13    form f15    form f16    form f17

form f14    form f18

form f14

Display: .....

Mag: 0    scr11/page

Figure 5-38b (AFTER)

UTP620144700  
1 November 1985

Command Line pdata 117 ABCDEFHIJKLMNOPQRSTUVWXYZ form 111

(Hit PF11 Page Left)

form 112

form 112

form 113

form 113

form 116  

X  
X

form 117  

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

form 114

form 118

form 114

Display: .....  
.....  
.....

Mag: 0

scrib/page

Figure 5-39a (BEFORE)

UTP620144700  
1 November 1985

Command Line pdata f17 ABCDEF GHIJ KLMNOPQRSTU VWXYZ form f11

(Hit PF11 Page Left)

form f12

form f12

form f13

form f15

form f16  

X  
X

form f17  

|   |   |
|---|---|
| C | D |
| G | H |
| K | L |

form f14

form f18

form f14

Display: .....  
.....  
.....

Mag: 0

scri1/page

Figure 5-39b (AFTER)

UTP620144700  
1 November 1985

Command Line      pdate f47 ABCDEF@HJLKNOPQRSTUWXYZ      f47 f41

(Hit PF11 PAGE LEFT)

f42 f42 f43 f45 f46 f47

f44 f48

f44

Display: .....  
.....  
.....

Msg: 1 End of scrolling section reached      scrl/page

Figure 5-39c (AFTER 5-39b)

UTP620144700  
1 November 1985

Command Line      **data 117 ABCDEFGHIJKLMNOPQRSTUVWXYZ**      **form 111**

**(Hit PF9 PAGE UP)**      **form 113**

**form 112**      **form 112**      **form 113**      **form 115**      **form 116**      **form 117**

**form 114**      **form 118**

**form 114**

Display: .....

Mag: ☐ **0**      **scrib/page**

Figure 5-40a (BEFORE)

UTP620144700  
1 November 1985

Command Line      pdate f17 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form f11

(Hit PF9 PAGE UP)

form f12      form f12      form f13      form f15      form f16      form f17

form f14      form f18

form f14

Display: .....

Mag: 0

scrib/page

Figure 5-40b (AFTER)

UTP620144700  
1 November 1985

Command Line      pdate f47 ABCDEFGHIJKLMNOPQRSTUVWXYZ      form f41

(Hit PF 10 Page Down)

form f43

form f42      form f42      form f43      form f45      form f46      form f47

form f44      form f48

form f44

Display: .....  
.....  
.....

Msg: 1 End of scrolling section reached      scrl/page

Figure 5-40c (AFTER 5-40b)

UTP620144700  
1 November 1985

Command Line      pdate 117 ABCDEFHIJKLMNOPSTUVWXYZ      form 111

form 112      form 112      form 113      form 115      form 116      form 117

form 114      form 118

form 114

Display: .....  
.....  
.....

Mag: 0      scrib/page

Figure 5-40d (AFTER 5-40c)

UTP620144700  
1 November 1985

Command Line      inqldv      form ff1

form ff5

form ff1      form ff2      form ff3      form ff5      form ff6      form ff7

form ff4      form ff8

form ff4

Display: .....  
.....  
.....

Mag: ☐ 0

scr11/page

Figure 5-41a (BEFORE)

UTP620144700  
1 November 1985

Command Line  form ff1

form ff2

form ff2

form ff3

form ff5

form ff6  

X  
X

form ff7  

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

form ff4

form ff8

form ff4

Display: logical device number = 6 .....

.....

.....

Msg: scrll/page

Figure 5-41b (AFTER)

UTP620144700  
1 November 1985

Command Line      opnldv      form ff1

form ff5

form ff2      form ff2      form ff3      form ff5      form ff6      form ff7

form ff4      form ff8

form ff4

Display: logical device number = 6 .....

Msg: 0

scr11/page

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

Figure 5-42a (BEFORE)

|   |             |             |             |             |             |         |
|---|-------------|-------------|-------------|-------------|-------------|---------|
| Command Line  |             |             |             |             |             | form f1 |
| <div></div>   |             |             |             |             |             |         |
| <div></div>   |             |             |             |             |             |         |
| form f2   | form f2     | form f3     | form f3     | form f6     | form f7     |         |
| <div></div>   | <div></div> | <div></div> | <div></div> | <div></div> | <div></div> |         |
| form f4   | form f8     |             |             |             |             |         |
| <div></div>   | <div></div> |             |             |             |             |         |
| form f4   |             |             |             |             |             |         |
| <div></div>   |             |             |             |             |             |         |
| Display: Opened and changed to logical device: 25 ..... |             |             |             |             |             |         |
| .....   |             |             |             |             |             |         |
| .....   |             |             |             |             |             |         |
| Msg: 0  | scr11/page  |             |             |             |             |         |

Figure 5-42b (AFTER)

UTP620144700  
1 November 1985

Command Line  form f11

form f12 form f12 form f13 form f15 form f16 form f17

form f14 form f18

form f14

Display: Opened and changed to logical device: 25 .....

.....

.....

Reg:  scr11/page

Figure 5-43a (BEFORE)

UTP620144700  
1 November 1985

Command Line  form ff1

(all fields non enterable)

form ff2 form ff2 form ff3 form ff5 form ff6 form ff7

form ff4 form ff8

form ff4

Display: Opened and changed to logical device: 25 .....

Msg:  scroll/page

Figure 5-43b (AFTER)

UTP620144700  
1 November 1985

Command Line  form ff1

(Hit PF1 MODE KEY till WINDOW MGR MODE)

form ff2 form ff2 form ff3 form ff5 form ff6 form ff7

form ff4 form ff8

Display: Opened and changed to logical device: 25 .....

Mag:  scrl1/page

Figure 5-44a (BEFORE)

UTP620144700  
1 November 1985

Command Line  form ff1

form ff2 form ff2 form ff3 form ff5 form ff6 form ff7

form ff4 form ff8

form ff4

Display: Opened and changed to logical device: 25 .....

.....

.....

Msg:  window agr

Figure 5-44b (AFTER)

Command Line  form f41

(Hit PF14 SELECT AP)

form f42 form f42 form f43 form f45 form f46 form f47

form f44 form f48

form f44

Display: Opened and changed to logical device: 25 .....

Msg:  window mgr

Figure 5-45a (BEFORE)

UTP620144700  
1 November 1985

Command Line  form ff1

form ff2 form ff2 form ff3 form ff5 form ff6 form ff7

form ff4 form ff8

form ff4

Display: Opened and changed to logical device: 25 .....

.....

.....

Msg:  Window is selected window mgr

Figure 5-45b (AFTER)

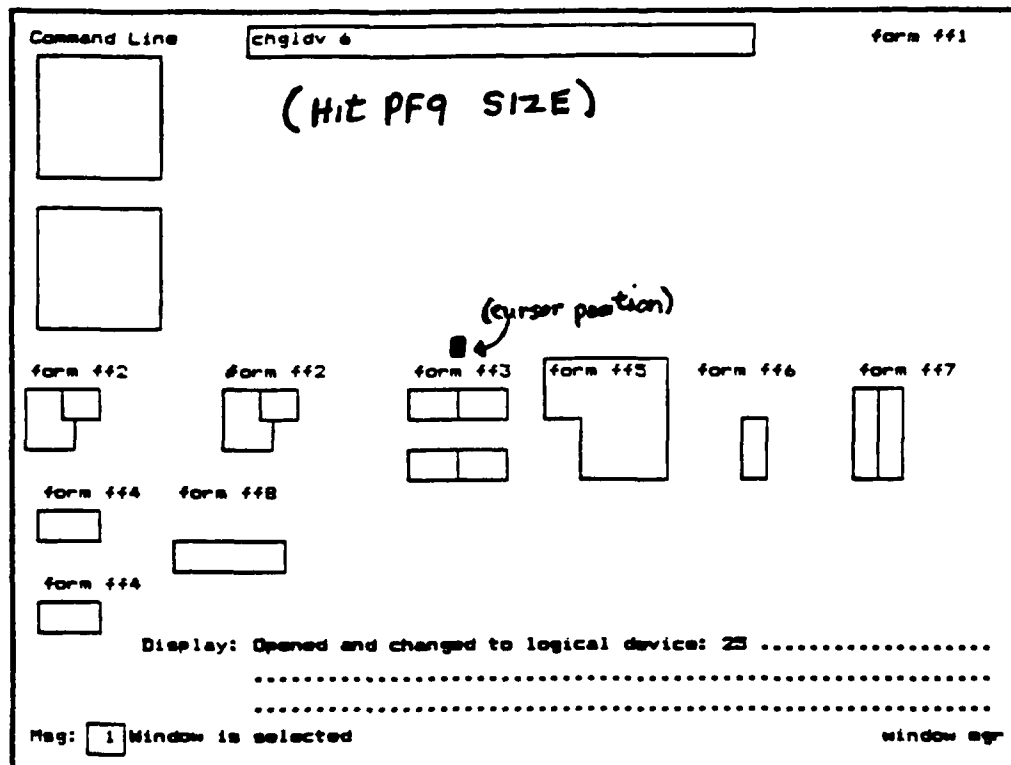


Figure 5-46a (BEFORE)

UTP620144700  
1 November 1985

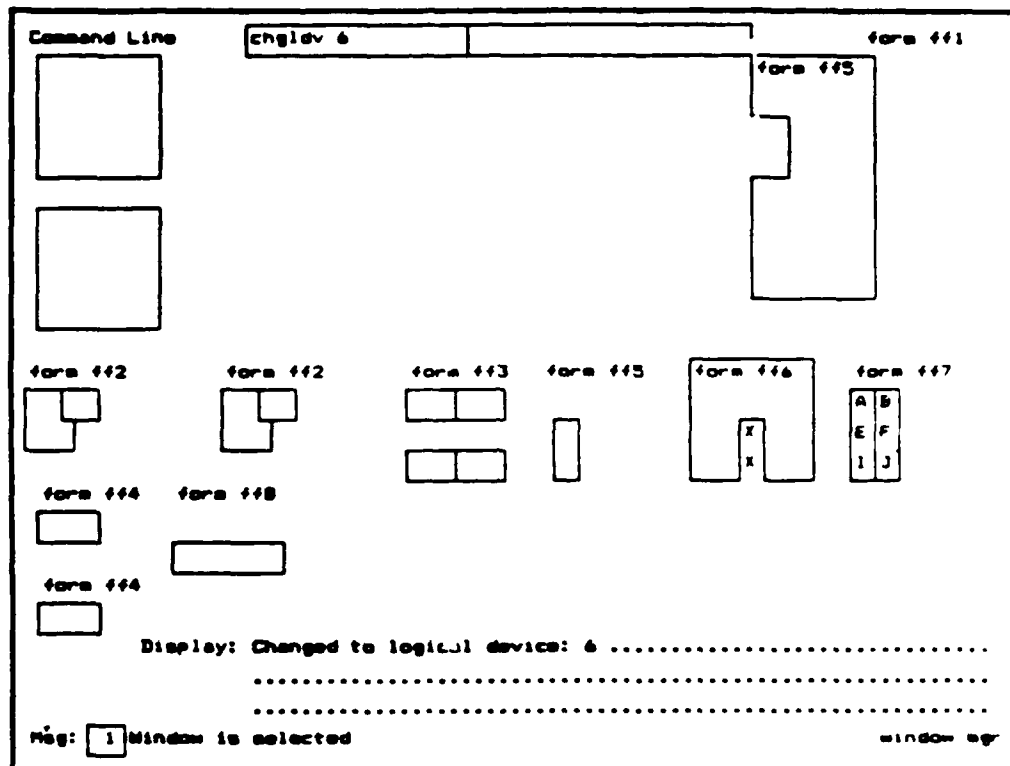


Figure 5-46b (AFTER)

UTP620144700  
1 November 1985

Command Line

(Press PF10 Location)  
with cursor here

form ff2 form ff2 form ff3 form ff5 form ff6 form ff7

form ff4 form ff8

form ff4

Display: Changed to logical device: 6 .....

Reg:  Window is selected window mgr

Figure 5-47a (BEFORE)

UTP620144700  
1 November 1985

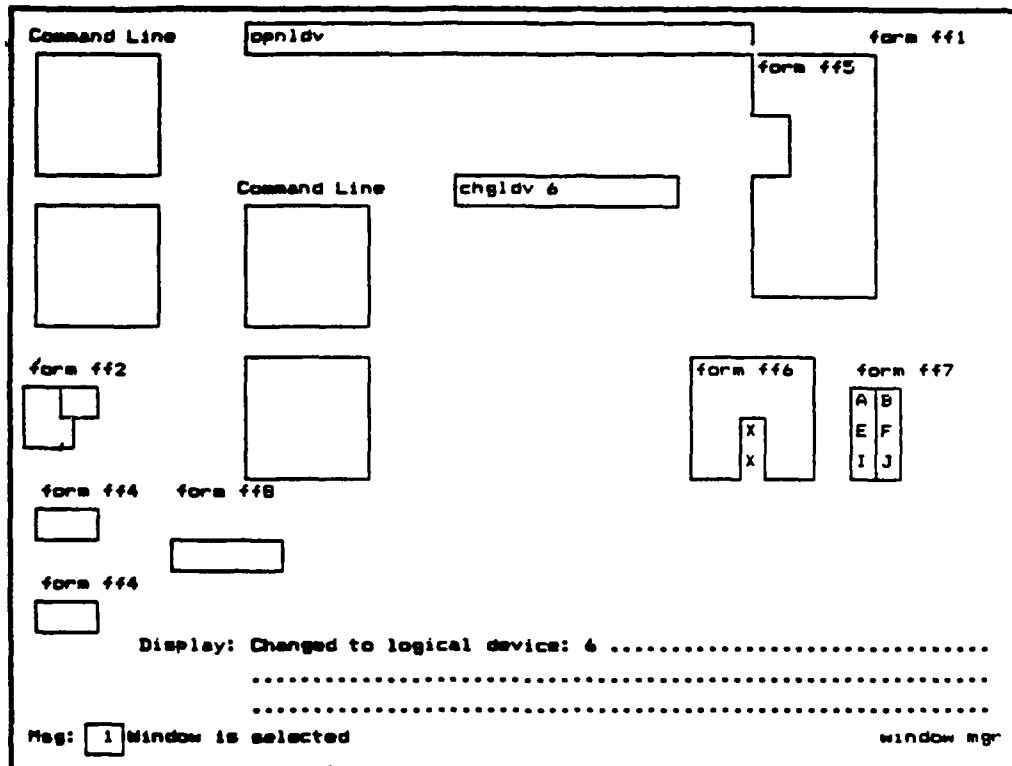


Figure 5-47b (AFTER)

UTP620144700  
1 November 1985

Command Line      addfrm w3 ff1      form ff1

form ff5

Command Line      CHSLDV 6

form ff2

form ff4      for

form ff4

form ff6

form ff7

Display: .....

Mag: 0      window mgr

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

|   |
|---|
| X |
| X |

Figure 5-48a (BEFORE)

UTP620144700  
1 November 1985

Command Line  form f11

Command L

Command Line

form f12

form f16

form f17 

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

form f14

form f18

form f14

Display: .....  
.....  
.....

Reg:  window mgr

Figure 5-48b (AFTER)

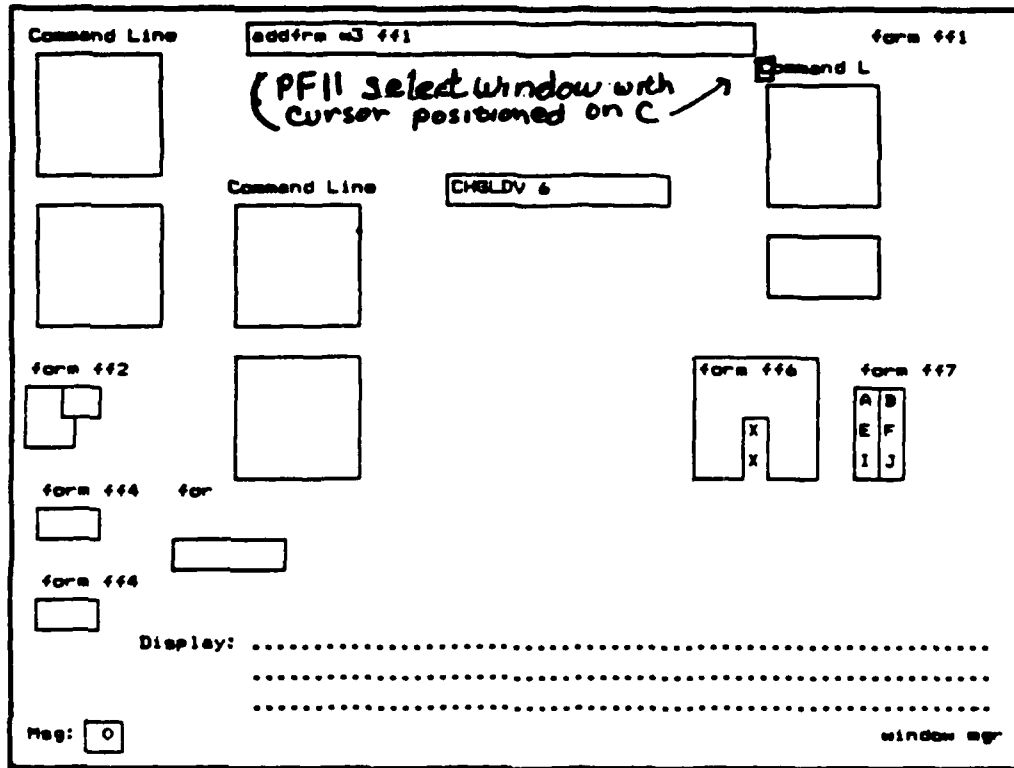


Figure 5-49a (BEFORE)

Command Line  form ff1

Command L

Command Line

form ff2

form ff4  form ff8

form ff4

form ff6

form ff7 

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

Display: .....  
.....  
.....

Msg:  Window is selected window mgr

Figure 5-49b (AFTER)

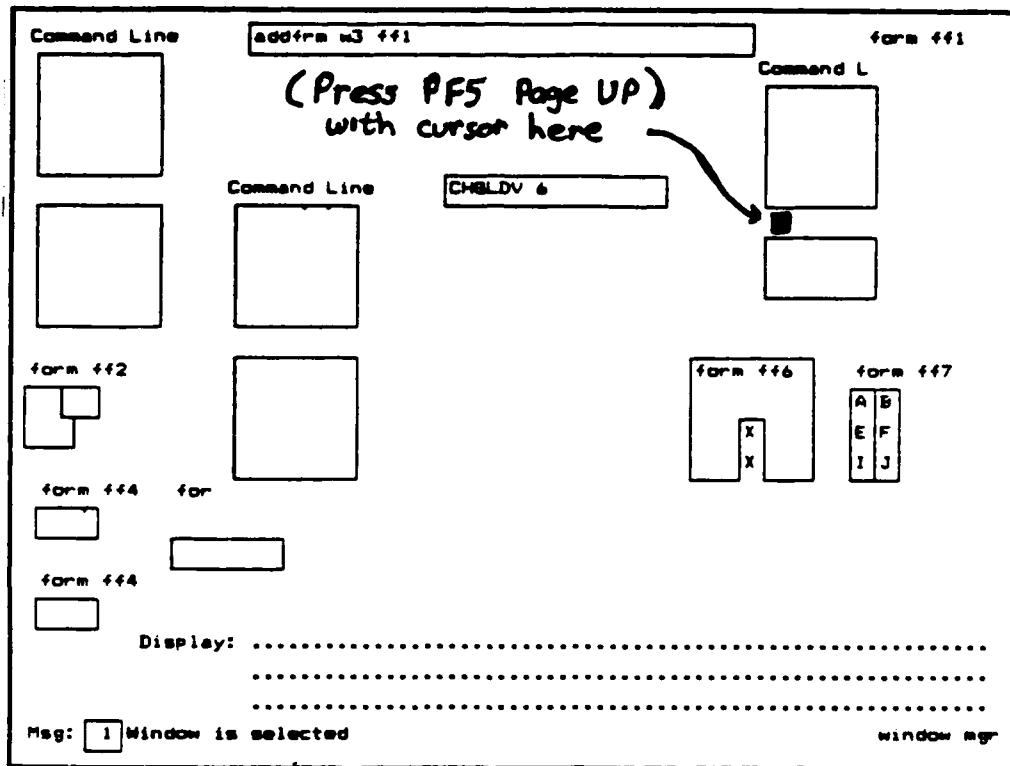


Figure 5-50a (BEFORE)

UTP620144700  
1 November 1985

Command Line  form ff1

Command Line

form ff2

form ff2

form ff6

form ff7

form ff4

form ff4

Display: .....

Mag:

window mgr

Figure 5-50b (AFTER)

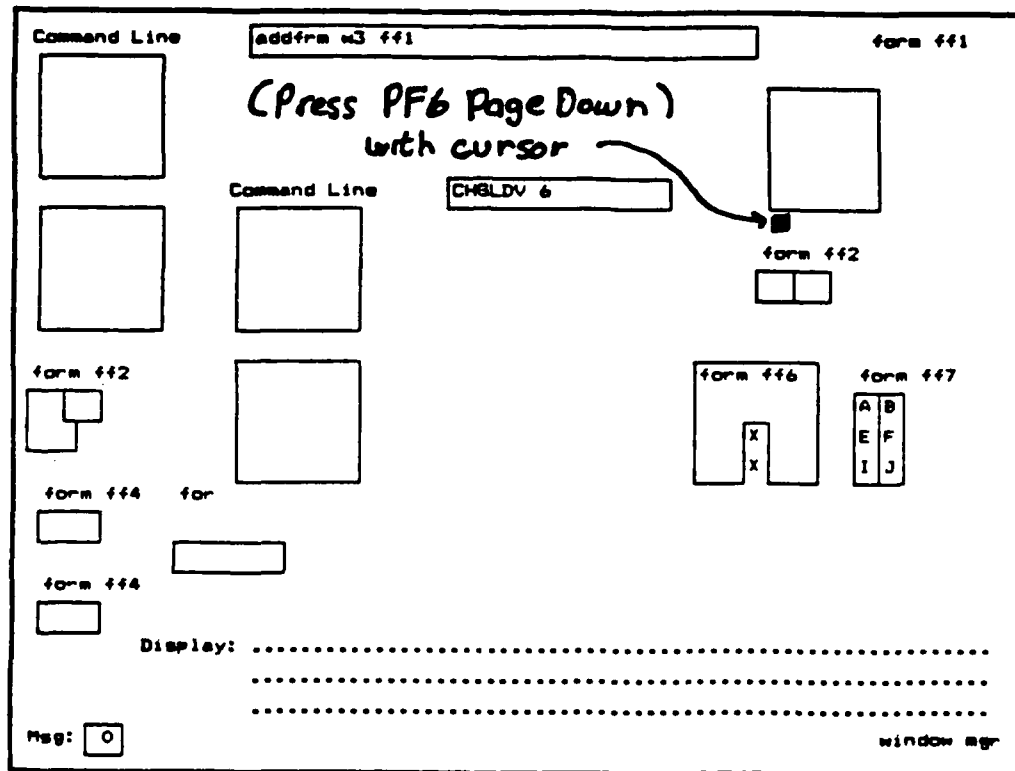


Figure 5-51a (BEFORE)

UTP620144700  
1 November 1985

Command Line    addfrm n3 ffl    form ffl

Command Line    chglav 6

form ffl

form ffl2

form ffl4    form ffl8

form ffl4

form ffl6

form ffl7

Display: .....

Msg: 0

window mgr

Figure 5-51b (AFTER)

UTP620144700  
1 November 1985

Command Line  form ff1

(PRESS PF15 Home View)

Command Line

form ff2

form ff6

form ff7

form ff4

form ff8

form ff4

Display: .....

Mag:  window mgr

Figure 5-52a (BEFORE)

UTP620144700  
1 November 1985

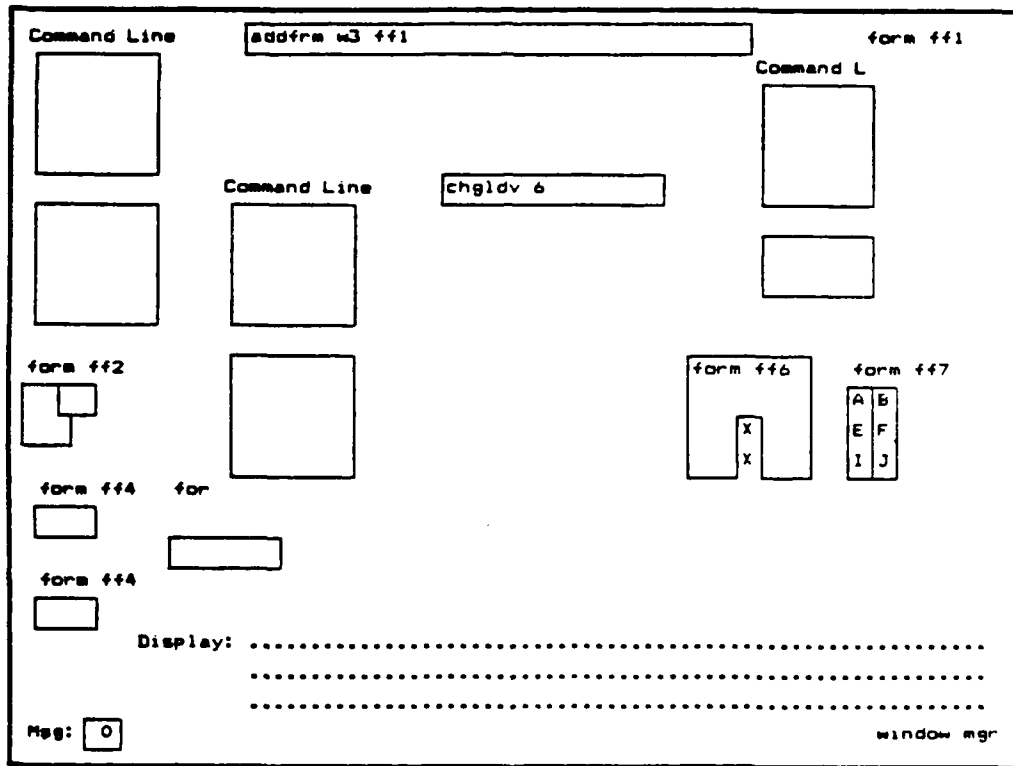


Figure 5-52b (AFTER)

UTP620144700  
1 November 1985

Command Line  form f41

*(PRESS PF7 Age left)*  
*with cursor on L*

Command

Command Line

form f42

form f44 for

form f44

form f46

form f47

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

Display: .....  
.....  
.....

Mag:  window mgr

Figure 5-53a (BEFORE)

|              |   |              |  |   |  |   |   |   |   |   |   |
|--------------|---|--------------|--|---|--|---|---|---|---|---|---|
| Command Line |   | addrn u3 ff1 |  | form ff1  |  |   |   |   |   |   |   |
|              |   |              |  | Line  |  |   |   |   |   |   |   |
|              |   |              |  |   |  |   |   |   |   |   |   |
| Command Line |   | chglv 6      |  |   |  |   |   |   |   |   |   |
|              |   |              |  |   |  |   |   |   |   |   |   |
| form ff2     |   |              |  | form ff6  |  |   |   |   |   |   |   |
|              |   |              |  | form ff7  |  |   |   |   |   |   |   |
|              |   |              |  | <table border="1"> <tr><td>A</td><td>B</td></tr> <tr><td>E</td><td>F</td></tr> <tr><td>I</td><td>J</td></tr> </table> |  | A | B | E | F | I | J |
| A            | B |              |  |   |  |   |   |   |   |   |   |
| E            | F |              |  |   |  |   |   |   |   |   |   |
| I            | J |              |  |   |  |   |   |   |   |   |   |
| form ff4     |   | for          |  |   |  |   |   |   |   |   |   |
|              |   |              |  |   |  |   |   |   |   |   |   |
| form ff4     |   |              |  |   |  |   |   |   |   |   |   |
|              |   |              |  |   |  |   |   |   |   |   |   |
| Display:     |   | .....        |  |   |  |   |   |   |   |   |   |
|              |   | .....        |  |   |  |   |   |   |   |   |   |
|              |   | .....        |  |   |  |   |   |   |   |   |   |
| Msg: 0       |   | window mgr   |  |   |  |   |   |   |   |   |   |

Figure 5-53b (AFTER)

Command Line  form f41

(PRESS PF8 Page Right)  
with cursor on L

Command Line

form f42

form f44

form f44

form f46

form f47

Display: .....

Page:  window mgr

Figure 5-54a (BEFORE)

Command Line    addfrm w3 ff1    form ff1

Command L

Command Line    chgldv 6

form ff2

form ff4    for

form ff4

Display: .....

Msg: 0

form ff6

form ff7

window mgr

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

|   |
|---|
| X |
| X |

Figure 5-54b (AFTER)

UTP620144700  
1 November 1985

Command Line  form ff1

(Press PF12 UNSELECT WINDOW)

Command L

form ff2

form ff4 for

form ff4

form ff6

form ff7

Display: .....

Msg:  window mgr

Figure 5-55a (BEFORE)

UTP620144700  
1 November 1985

Command Line addfrm w3 ff1 form ff1

Command L

Command Line chgldv 6

form ff2

form ff4 for

form ff4

form ff6

form ff7

Display: .....

Mag: 5 Window is unselected window mgr

Figure 5-55b (AFTER)

UTP620144700  
1 November 1985

Command Line

addfrm w3 ff1

ff1

(Press PF13 UIS Function)

Command L

Command Line

chglav 6

ff2

ff4

ff4

ff6

ff7

Display:

5

Window is unselected

window mgr

Figure 5-56a (BEFORE)

UTP620144700  
1 November 1985

I I S S   T E S T   B E D   V E R S I O N   2 . 0

---

DATE:     TIME:     USER ID:     ROLE:

FUNCTION:     DEVICE TYPE:     DEVICE NAME:

Msg:  Window is selected window msg

Figure 5-56b (AFTER)

UTP620144700  
1 November 1985

I I S S   T E S T   B E D   V E R S I O N   2 . 0

---

DATE:    TIME:    USER ID:    ROLE:

FUNCTION:    DEVICE TYPE:    DEVICE NAME:

Msg:  Window is selected window msg

Figure 5-57a (BEFORE)

UTP620144700  
1 November 1985

| Window Manager |       |      |     |                |          |     |                 |    |                    |     |
|----------------|-------|------|-----|----------------|----------|-----|-----------------|----|--------------------|-----|
| Device         |       |      |     | Window<br>Name | Location |     | Display<br>Size |    | Viewport<br>Offset |     |
| Application    | Type  | Name | Pri |                | Row      | Col | W               | D  | Row                | Col |
| SDARTESTZZ     | VT100 | TT:  | 1   |                | 6        | 17  | 36              | 11 | 0                  | 0   |
| SDARTESTZZ     |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZZ     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZZ     | VT100 | TT:  | 2   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| SDARTESTZZ     |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZZ     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZZ     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| MENU           | VT100 | TT:  | 3   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| MENU           |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |

Msg: 0

window mgr

Figure 5-57b (AFTER)

UTP620144700  
1 November 1985

| Window Manager |            |           |     |                |          |     |                 |    |                    |     |
|----------------|------------|-----------|-----|----------------|----------|-----|-----------------|----|--------------------|-----|
| Device         |            |           |     | Window<br>Name | Location |     | Display<br>Size |    | Viewport<br>Offset |     |
| Application    | Type       | Name      | Pri |                | Row      | Col | W               | D  | Row                | Col |
| SDARTESTZZ     | SDPRINTZZZ | PRINT.DEV | 1   |                | 6        | 17  | 34              | 11 | 0                  | 0   |
| SDARTESTZZ     |            |           |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZZ     |            |           |     | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZZ     | VT100      | TT:       | 2   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| SDARTESTZZ     |            |           |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZZ     |            |           |     | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZZ     |            |           |     | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| MENU           | VT100      | TT:       | 3   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| MENU           |            |           |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |

Msg: 0

window mgr

Figure 5-58a (BEFORE)

UTP620144700  
1 November 1985

Command Line      addfrm w3 ff1      form ff1

Command L

form ff2      form ff2      form ff3      form ff5      form ff6      form ff7

form ff4      form ff8

form ff4

Display: .....

Msg: 3 Window is selected      window mgr

Figure 5-58b (AFTER)

Command Line  form f1

(PRESS PF13 VIS Function)

Command L

form f2 form f2 form f3 form f5 form f6 form f7

form f4 form f8

form f4

Display: .....  
.....  
.....

Reg: ☐ Window is selected window mgr

Figure 5-59a (BEFORE)

UTP620144700  
1 November 1985

IISS TEST BED VERSION 2.0

---

DATE:  TIME:  USER ID:  ROLE:

FUNCTION:  DEVICE TYPE:  DEVICE NAME:

Msg: 3 Window is selected window mgr

Figure 5-59b (AFTER)

UTP620144700  
1 November 1985

IISS TEST BED VERSION 2.0

---

DATE:  TIME:  USER ID:  ROLE:

FUNCTION:  DEVICE TYPE:  DEVICE NAME:

Msg:  Window is selected window msg

Figure 5-60a (BEFORE)

UTP620144700  
1 November 1985

| Window Manager |           |           |     |                |          |     |                 |    |                    |     |
|----------------|-----------|-----------|-----|----------------|----------|-----|-----------------|----|--------------------|-----|
| Device         |           |           |     | Window<br>Name | Location |     | Display<br>Size |    | Viewport<br>Offset |     |
| Application    | Type      | Name      | Pri |                | Row      | Col | M               | D  | Row                | Col |
| SDARTESTZZ     | SDPRINTZZ | PRINT.DEV | 1   |                | 6        | 17  | 36              | 11 | 0                  | 0   |
| SDARTESTZZ     |           |           |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZZ     |           |           |     | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZZ     | VT100     | TT:       | 2   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| SDARTESTZZ     |           |           |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZZ     |           |           |     | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZZ     |           |           |     | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| MENB           | VT100     | TT:       | 3   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| MENU           |           |           |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |

Mag:  window mg

Figure 5-60b (AFTER)

UTP620144700  
1 November 1985

| Window Manager |       |      |      |                |          |     |                 |    |                    |     |
|----------------|-------|------|------|----------------|----------|-----|-----------------|----|--------------------|-----|
| Device         |       |      |      | Window<br>Name | Location |     | Display<br>Size |    | Viewport<br>Offset |     |
| Application    | Type  | Name | Pr:1 |                | Row      | Col | M               | D  | Row                | Col |
| SEARTESTZZ     |       |      | 1    |                | 6        | 17  | 36              | 11 | 0                  | 0   |
| SEARTESTZZ     |       |      |      | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SEARTESTZZ     |       |      |      | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SEARTESTZZ     | VT100 | TT:  | 2    |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| SEARTESTZZ     |       |      |      | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SEARTESTZZ     |       |      |      | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SEARTESTZZ     |       |      |      | MS             | 2        | 60  | 10              | 8  | 0                  | 0   |
| FEUJ           | VT100 | TT:  | 3    |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| FEUJ           |       |      |      | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |

Mag:  window mgr

Figure 5-61a (BEFORE)

UTP620144700  
1 November 1985

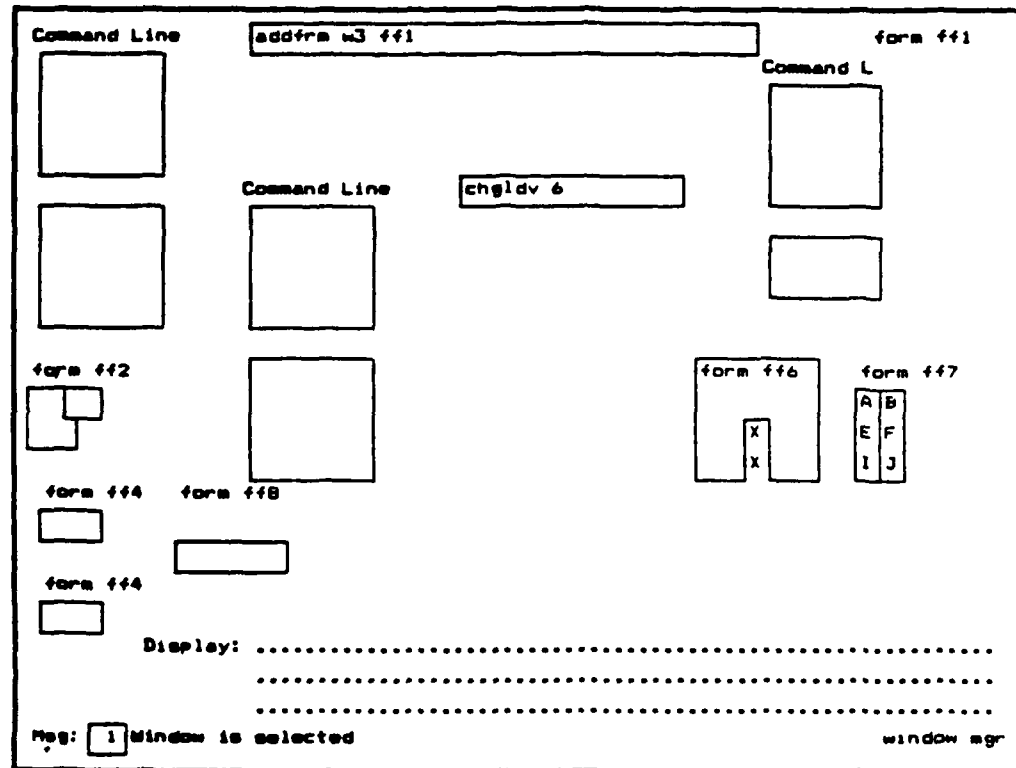


Figure 5-61b (AFTER)

UTP620144700  
1 November 1985

Command Line  form ff1

*(press PF13 VIS Function)*

Command L

Command Line

form ff2

form ff6

form ff7 

|   |   |
|---|---|
| A | B |
| E | F |
| I | J |

form ff4  for

form ff4

Display: .....  
.....  
.....

Msg:  Window is selected window mgr

Figure 5-62a (BEFORE)

UTP620144700  
1 November 1985

I I S S T E S T B E D V E R S I O N 2.0

---

DATE:  TIME:  USER ID:  ROLE:

FUNCTION:  DEVICE TYPE:  DEVICE NAME:

Msg:  Window is selected

Window mgr

Figure 5-62b (AFTER)

UTP620144700  
1 November 1985

IISS TEST BED VERSION 2.0

---

DATE:  TIME:  USER ID:  ROLE:

FUNCTION:  DEVICE TYPE:  DEVICE NAME:

Reg:  Window is selected

Window #9

Figure 5-63a (BEFORE)

UTP620144700  
1 November 1985

```

                                Window Manager

                                Device
                                -----
Application      Type      Name      Pri      Window
-----
SDARTESTZZ      VT100      TT:      1      SCREEN
SDARTESTZZ                               M3
SDARTESTZZ                               M3
SDARTESTZZ      VT100      TT:      2      SCREEN
SDARTESTZZ                               M3
SDARTESTZZ                               M3
SDARTESTZZ                               M3
MENU            VT100      TT:      3      SCREEN
MENU

```

| Location |     | Display Size |    | Viewport Offset |     |
|----------|-----|--------------|----|-----------------|-----|
| Row      | Col | W            | D  | Row             | Col |
| 6        | 17  | 36           | 11 | 0               | 0   |
| 1        | 1   | 80           | 23 | 0               | 0   |
| 2        | 60  | 10           | 8  | 0               | 0   |
| 1        | 1   | 80           | 24 | 0               | 0   |
| 1        | 1   | 80           | 23 | 0               | 0   |
| 2        | 60  | 10           | 8  | 0               | 0   |
| 2        | 60  | 10           | 8  | 0               | 0   |
| 1        | 1   | 80           | 24 | 0               | 0   |
| 1        | 1   | 80           | 23 | 0               | 0   |

```

Msg: 0
                                window mgr

```

**Figure 5-63b (AFTER)**

UTP620144700  
1 November 1985

# Window Manager

Device

Location

Display

Viewport

Window

Size

Offset

Application

Type

Name

Pri

Name

Row Col

W D

Row Col

SDARTESTZZ VT100 TT: 2

SDARTESTZZ

SDARTESTZZ

SDARTESTZZ VT100 TT: 1

SDARTESTZZ

SDARTESTZZ

SDARTESTZZ

MENU VT100 TT: 3

MENU

SCREEN

W3

SCREEN

W3

W3

SCREEN

|   |    |    |    |   |   |
|---|----|----|----|---|---|
| 6 | 17 | 36 | 11 | 0 | 0 |
| 1 | 1  | 80 | 23 | 0 | 0 |
| 2 | 60 | 10 | 8  | 0 | 0 |
| 1 | 1  | 80 | 24 | 0 | 0 |
| 1 | 1  | 80 | 23 | 0 | 0 |
| 2 | 60 | 10 | 8  | 0 | 0 |
| 2 | 60 | 10 | 8  | 0 | 0 |
| 1 | 1  | 80 | 24 | 0 | 0 |
| 1 | 1  | 80 | 23 | 0 | 0 |

Mag: 0

window mgr

Figure 5-64a (BEFORE)

UTP620144700  
1 November 1985

Command Line      addfrm w3 ff1      form ff1

Command L

form ff2      form ff2      form ff3      form ff5      form ff6      form ff7

form ff4      form ff8

form ff4

Display: .....

Mag: ☒ Window is selected      window mgr

Figure 5-64b (AFTER)

UTP620144700  
1 November 1985

Command Line  form f11

(Press PF13 UIS Function)

Command L

form f12 form f12 form f13 form f15 form f16 form f17

form f14 form f18

form f14

Display: .....  
.....  
.....

Msg:  Window is selected window mgr

Figure 5-65a (BEFORE)

UTP620144700  
1 November 1985

IISS TEST BED VERSION 2.0

---

DATE:  TIME:  USER ID:  ROLE:

FUNCTION:  DEVICE TYPE:  DEVICE NAME:

Msg:  Window is selected

WINDOW MSG

Figure 5-65b (AFTER)

UTP620144700  
1 November 1985

ISS TEST BED VERSION 2.0

---

DATE: 9/ 9/85 TIME: 11:51:58 USER ID: MORENC ROLE: MANAGER

FUNCTION: window DEVICE TYPE: DEVICE NAME:

Msg: 2 Window is selected window mgr

Figure 5-66a (BEFORE)

UTP620144700  
1 November 1985

| Window Manager |       |      |     |                |          |     |                 |    |                    |     |
|----------------|-------|------|-----|----------------|----------|-----|-----------------|----|--------------------|-----|
| Device         |       |      |     | Window<br>Name | Location |     | Display<br>Size |    | Viewport<br>Offset |     |
| Application    | Type  | Name | Pri |                | Row      | Col | W               | D  | Row                | Col |
| SDARTESTZ2     | VT100 | TT:  | 1   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| SDARTESTZ2     |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZ2     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZ2     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZ2     | VT100 | TT:  | 2   |                | 6        | 17  | 36              | 11 | 0                  | 0   |
| SDARTESTZ2     |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZ2     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| MENU           | VT100 | TT:  | 3   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| MENU           |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |

Msg: 0

window mgr

Figure 5-66b (AFTER)

UTP620144700  
1 November 1985

| Window Manager |       |      |     |                |          |     |                 |    |                    |     |
|----------------|-------|------|-----|----------------|----------|-----|-----------------|----|--------------------|-----|
| Device         |       |      |     | Window<br>Name | Location |     | Display<br>Size |    | Viewport<br>Offset |     |
| Application    | Type  | Name | Pri |                | Row      | Col | W               | D  | Row                | Col |
| SDARTESTZZ     | VT100 | TT:  | 2   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| SDARTESTZZ     |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZZ     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZZ     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| SDARTESTZZ     | VT100 | TT:  | 1   |                | 6        | 17  | 36              | 11 | 0                  | 0   |
| SDARTESTZZ     |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |
| SDARTESTZZ     |       |      |     | W3             | 2        | 60  | 10              | 8  | 0                  | 0   |
| MENU           | VT100 | TT:  | 3   |                | 1        | 1   | 80              | 24 | 0                  | 0   |
| MENU           |       |      |     | SCREEN         | 1        | 1   | 80              | 23 | 0                  | 0   |

Mag:  window mgr

Figure 5-67a (BEFORE)

UTP620144700  
1 November 1985

|   |  |             |  |             |  |
|---|--|-------------|--|-------------|--|
| Command Line  |  | addr m3 f11 |  | form f11    |  |
| <div></div>   |  | <div></div> |  | <div></div> |  |
| Command Line  |  | englev 6    |  | Command L   |  |
| <div></div>   |  | <div></div> |  | <div></div> |  |
| form f12  |  | <div></div> |  | form f16    |  |
| <div></div>   |  | <div></div> |  | <div></div> |  |
| form f14  |  | form        |  | form f17    |  |
| <div></div>   |  | <div></div> |  | <div></div> |  |
| form f14  |  |             |  | <div></div> |  |
| <div></div>   |  |             |  | <div></div> |  |
| Display: .....  |  |             |  |             |  |
| .....   |  |             |  |             |  |
| .....   |  |             |  |             |  |
| Reg: <input checked="" type="checkbox"/> Window is selected |  |             |  |             |  |
| window 09   |  |             |  |             |  |

Figure 5-67b (AFTER)

UTP620144700  
1 November 1985

Command Line alpha a3 441 Term 441

(Press PF12 unselect)

Command Line CHALON 6 Command L

Term 442

Term 446

Term 447

Display: .....

Msg: 1 Window is selected window 09

**Figure 5-68a (BEFORE)**

|  |   |               |  |   |  |   |   |   |   |   |   |
|--|---|---------------|--|---|--|---|---|---|---|---|---|
| Command Line                                       |   | addire uJ ffl |  | form ffl  |  |   |   |   |   |   |   |
|  |   |               |  | Command L   |  |   |   |   |   |   |   |
|  |   |               |  |   |  |   |   |   |   |   |   |
| Command Line                                       |   | chglav 6      |  |   |  |   |   |   |   |   |   |
|  |   |               |  |   |  |   |   |   |   |   |   |
| form ffl2  |   |               |  | form ffl6   |  |   |   |   |   |   |   |
|  |   |               |  | <table border="1"> <tr><td>A</td><td>B</td></tr> <tr><td>E</td><td>F</td></tr> <tr><td>I</td><td>J</td></tr> </table> |  | A | B | E | F | I | J |
| A  | B |               |  |   |  |   |   |   |   |   |   |
| E  | F |               |  |   |  |   |   |   |   |   |   |
| I  | J |               |  |   |  |   |   |   |   |   |   |
| form ffl4  |   | for           |  |   |  |   |   |   |   |   |   |
|  |   |               |  |   |  |   |   |   |   |   |   |
| form ffl4  |   |               |  |   |  |   |   |   |   |   |   |
|  |   |               |  |   |  |   |   |   |   |   |   |
| Display: .....                                     |   |               |  |   |  |   |   |   |   |   |   |
| .....  |   |               |  |   |  |   |   |   |   |   |   |
| .....  |   |               |  |   |  |   |   |   |   |   |   |
| Key: <input type="checkbox"/> window is unselected |   |               |  |   |  |   |   |   |   |   |   |
| window mgr   |   |               |  |   |  |   |   |   |   |   |   |

Figure 5-68b (AFTER)

UTP620144700  
1 November 1985

Command Line clsdrv 25 form f11

Command L

Command Line chglsv 6

form f12

form f14 for

form f14

form f16

form f17

Display: .....

Msg: 6 Window is unselected window mgr

Figure 5-69a (BEFORE)

UTP620144700  
1 November 1985

Command Line  form f11

Command L

form f12 form f12 form f13 form f15 form f16 form f17

form f14 form f18

form f14

Display: Closed logical device: 25 .....

Msg: ☐ window mgr

Figure 5-69b (AFTER)

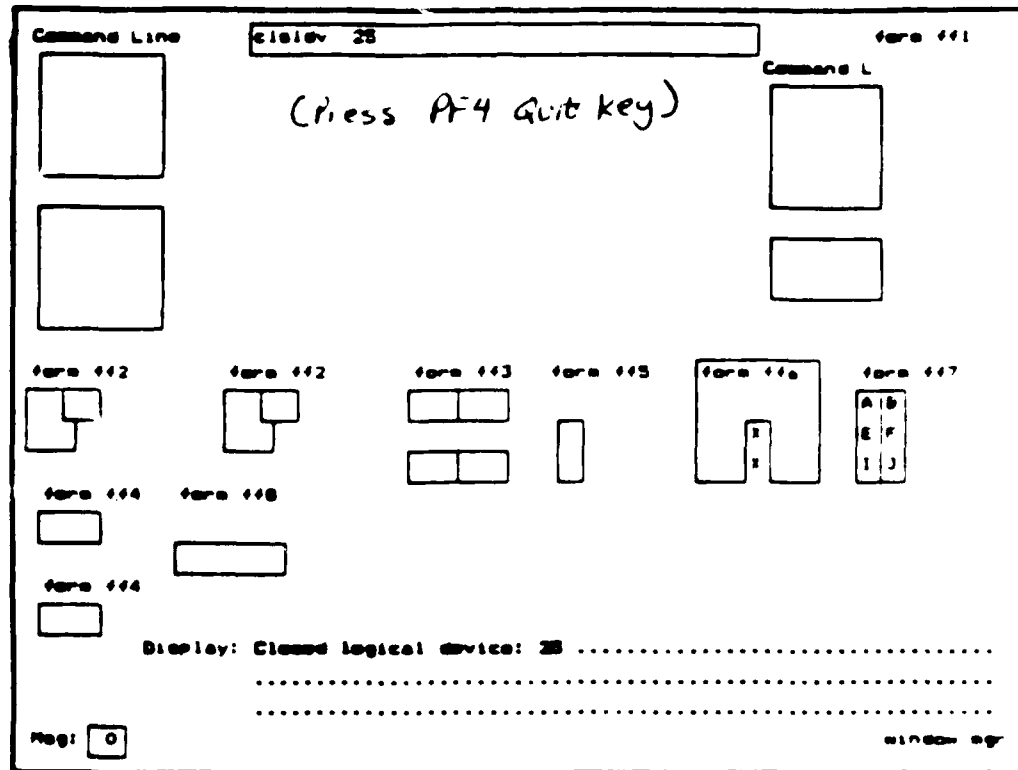


Figure 5-70a (BEFORE)

UTP620144700  
1 November 1985

ISIS TEST BED VERSION 2.0

---

DATE: 9/9/85 TIME: 11:51:50 USER ID: POFENC ROLE: MANAGER

FUNCTION: DEVICE TYPE: DEVICE NAME:

Page: 2 Window is selected window key

Figure 5-70b (AFTER)

UTP620144700  
1 November 1985

1188 TEST BED VERSION 2.0

DATE: 9/ 9/85 TIME: 11:51:58 USER ID: FIDRENC ROLE: MANAGER

FUNCTION: DEVICE TYPE: DEVICE NAME:

(Press PF4 Quit key)

Msg: 2 Window is selected window msg

Figure 5-71a (BEFORE)

UTP620144700  
1 November 1985

\$

Now at Vax Command level

Figure 5-71b (AFTER)

## APPENDIX A

### COMMANDS FOR ARTEST

Commands are of the form:  
command arg1 arg2 ... argn

Where command is the form processor procedure implementing the command and arg1, etc. are the input arguments. Arguments are separated by blank(s) and arguments which contain blanks are enclosed in double quotes.

#### Window/Form Manipulation

|                          |   |
|--------------------------|---|
| add form to a window     | addfrm window_path form_name                |
| delete pages from window | rmvpag window_path page_number              |
| replace page in window   | rplfrm window_path page_number<br>form_name |
| close form               | clsfrm form_name                            |

#### Window/Form Information

|                                  |                               |
|----------------------------------|-------------------------------|
| get name of form on page n       | gpage window_path page_number |
| get number of pages<br>in window | gwindo window_path            |

#### Attributes

|                              |                           |
|------------------------------|---------------------------|
| change attributes            | putatt path dur attribute |
| get attributes               | getatt path dur           |
| put and get temp attributes  | tmpatt path dur attribute |
| change background attributes | putbak path dur attribute |
| get background attributes    | getbak path dur           |
| put and get background       | tmpbak path dur attribute |

dur is 0) permanent  
1) temporary

attributes are:  
INPUT, OUTPUT, TEXT, HIDDEN, ERROR

background attributes are:  
WHITE, BLACK, XPARNT

### Data Manipulation

-----  
put data to form/item/array      pdata path data  
get data from form/item/array    gdata instance path  
instance is 0=previous, 1=current

### Miscellaneous

-----  
put cursor to field                  putcur path  
window set(term within term)      oisr window\_path  
parse fully qualified name        parfqn level  
    with level: 1=first, 2=second,...  
                0=last, -1=next to last,...  
    Must use pfl6(0) first!!!

### Function Keys

-----  
pf0(enter) - do command on command line  
pfl6(0)     - display path name of cursor position  
pfl         - go to next form processor mode  
pf2         - help  
pf3         - display message screen  
pf4         - quit

for scrolling, press pfl until the mode is scrll/page,  
then:

pf5(7)      - horizontal scroll forward  
pf6(8)      - horizontal scroll backward  
pf7(9)      - vertical scroll forward  
pf8(-)      - vertical scroll backward  
pf9(4)      - horizontal page forward  
pfl0(5)     - horizontal page backward  
pfl1(6)     - vertical page forward  
pfl2(.)     - vertical page backward

APPENDIX B

FORMS FOR TESTING THE FORM PROCESSOR

CREATE FORM ff1  
PROMPT AT 1 2 "Command Line"  
item i0  
at 1 70  
size 8  
display as text  
value "form ff1"

item i3  
at 21 11  
size 8  
display as text  
value "Display:"

item i4  
at 1 20  
size 40  
display as input  
help pathcom

WINDOW w1 (2 v 1)  
AT 2 2  
SIZE 10 BY 4  
display as white

WINDOW w2(2 v 1, 2 H 1)  
AT 2 15  
SIZE 10 BY 4  
display as xparnt

WINDOW w3 at 2 60  
size 10 by 8  
display as black

form ff2 (2 h 4)  
at 12 1  
size 12 by 4

form ff3  
at 12 32  
size 10 by 4

UTP620144700  
1 November 1985

form ff4 (2 v 1)  
at 16 2  
size 10 by 2

form ff5  
at 12 43  
size 10 by 4

form ff6  
at 12 55  
size 10 by 4

form ff7  
at 12 68  
size 10 by 4

form ff8  
at 16 13  
size 10 by 4

item fqn  
at 21 20  
size 60 by 3  
display as output

CREATE FORM ff2  
prompt 1 2 "form ff2"

item 11(2 h 1)  
at 2 2  
size 2  
display as input

item 12  
at 3 2  
size 3  
display as input

create form ff3  
prompt 1 2 "form ff3"  
item 11(2 v 1, 2 h 1)  
at 2 2  
size 3  
display as input

UTP620144700  
1 November 1985

create form ff4  
background black  
prompt 1 2 "form ff4"

item 11  
at 2 2  
size 4  
display as input

create form ff5  
background white  
prompt 1 2 "form ff5"

item 11  
at 3 3  
size 1 by 2  
display as input

create form ff6  
background xparnt  
prompt 1 2 "form ff6"

item 11  
at 3 6  
size 1 by 4  
display as input

create form ff7  
prompt 1 2 "form ff7"  
item 11(3/6 v 0, 2/4 h 1)  
at 2 2  
size 1  
display as input

create form ff8  
prompt 1 2 "form ff8"

item 11  
at 1 2  
size 8  
display as input

create form ff9  
prompt 1 2 "form ff9"

item 11  
at 2 2  
size 8  
display as input

window w4  
at 3 1  
size 10 by 5  
display as black

create form pathcom  
prompt 1 9 "Commands for ARTEST"  
prompt 2 9 "-----"  
prompt 3 9 "add form to a window       addrfm window form"  
prompt 4 9 "delete pages from window   rmvpag window page"  
prompt 5 9 "replace page in window    rplfrm window page form"  
prompt 6 9 "close form               clsfrm form"  
prompt 7 9 "put data to form item array   pdata path data"  
prompt 8 9 "get data from form item array   gdata  
          inst(0-prev,1-cur) path"  
prompt 9 9 "change attributes: foreground   putatt path  
          dur(prm=0,tmp=1) attrib"  
prompt 10 9 "get attributes: foreground    getatt path  
          dur(prm=0,tmp=1)"  
prompt 11 9 "put and get temp attributes(f) tmpatt path dur  
          attrib"  
prompt 12 9 "change attributes: background   putbak path  
          dur(prm=0,tmp=1) attrib"  
prompt 13 9 "get attributes: background    getbak path  
          dur(prm=0,tmp=1)"  
prompt 14 9 "put and get temp attributes(b) tmpbak path dur  
          attrib"  
prompt 15 9 "get name of form on page n       gpage window page"  
prompt 16 9 "get number of pages in window   gwindo window"  
prompt 17 9 "put cursor to field       putcur path"  
prompt 18 9 "window set(term within term)   oiscr path"  
prompt 19 9 "parse fully qualified name   parfqn  
          lev(0-1st,1-fst,-1-nxt21st,etc)"  
prompt 20 9 "                               Must use pf16(0)  
          first"  
prompt 21 9 "Function Keys"  
prompt 22 9 "-----"  
prompt 23 9 "pf16(0) - display path name of cursor position"

END

8-87

DTIC